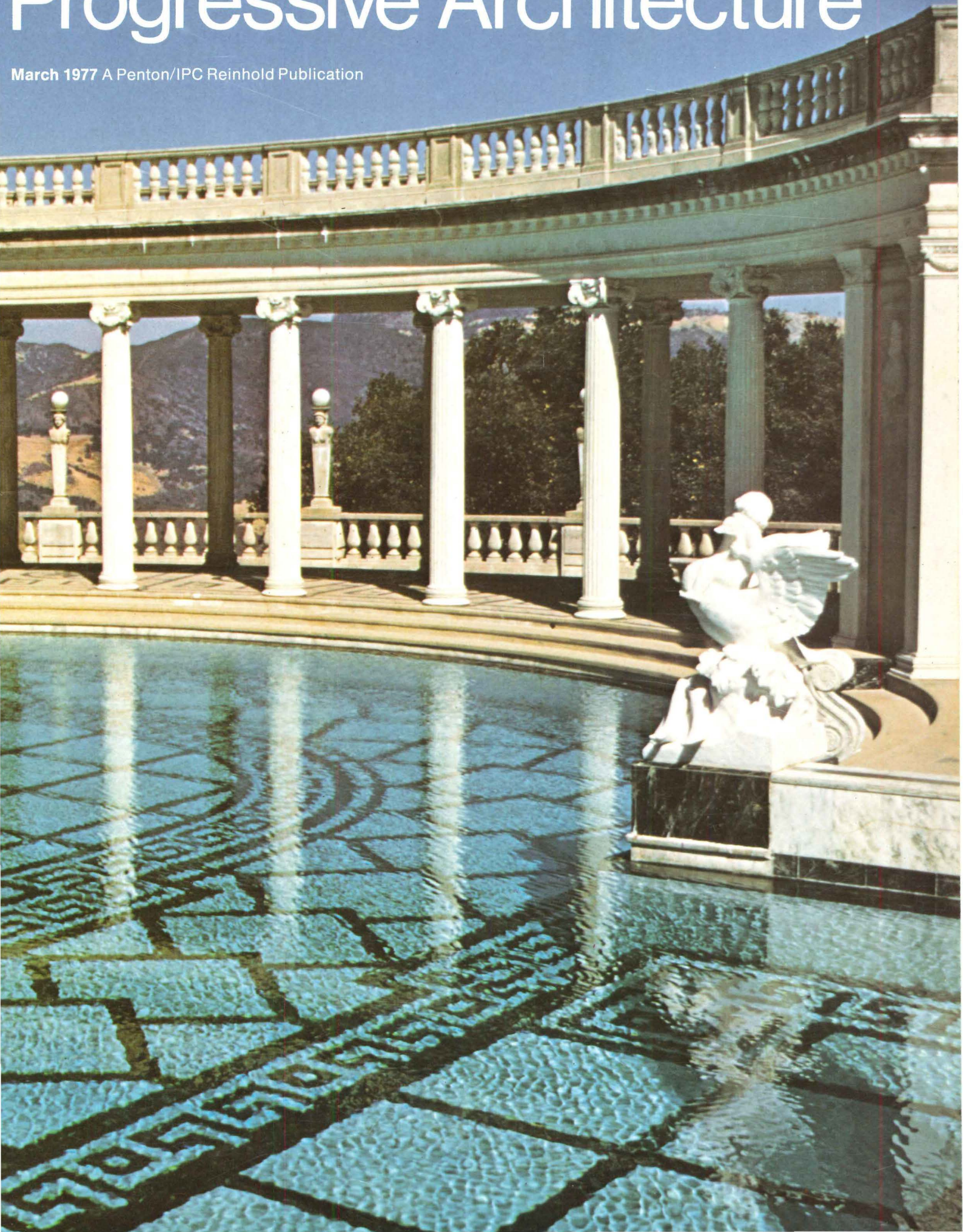


# Progressive Architecture

March 1977 A Penton/IPC Reinhold Publication

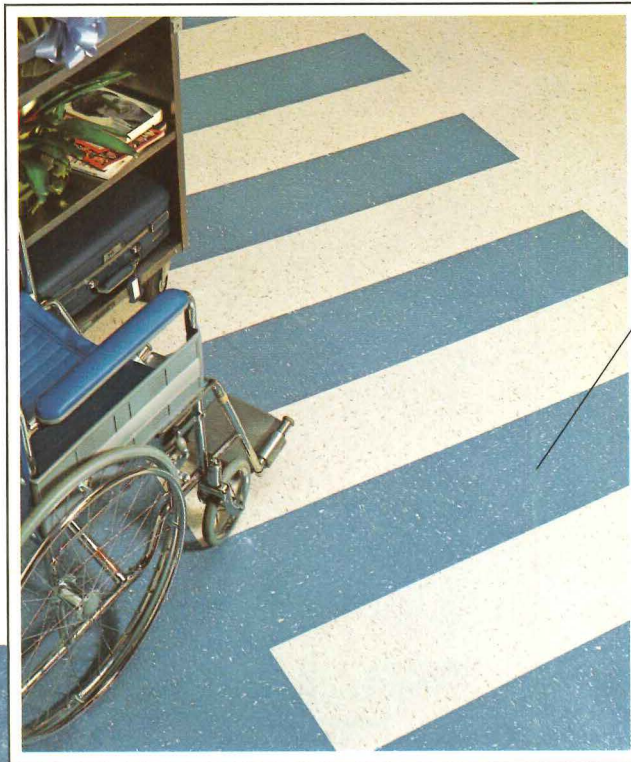




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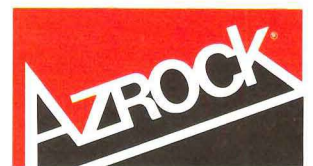
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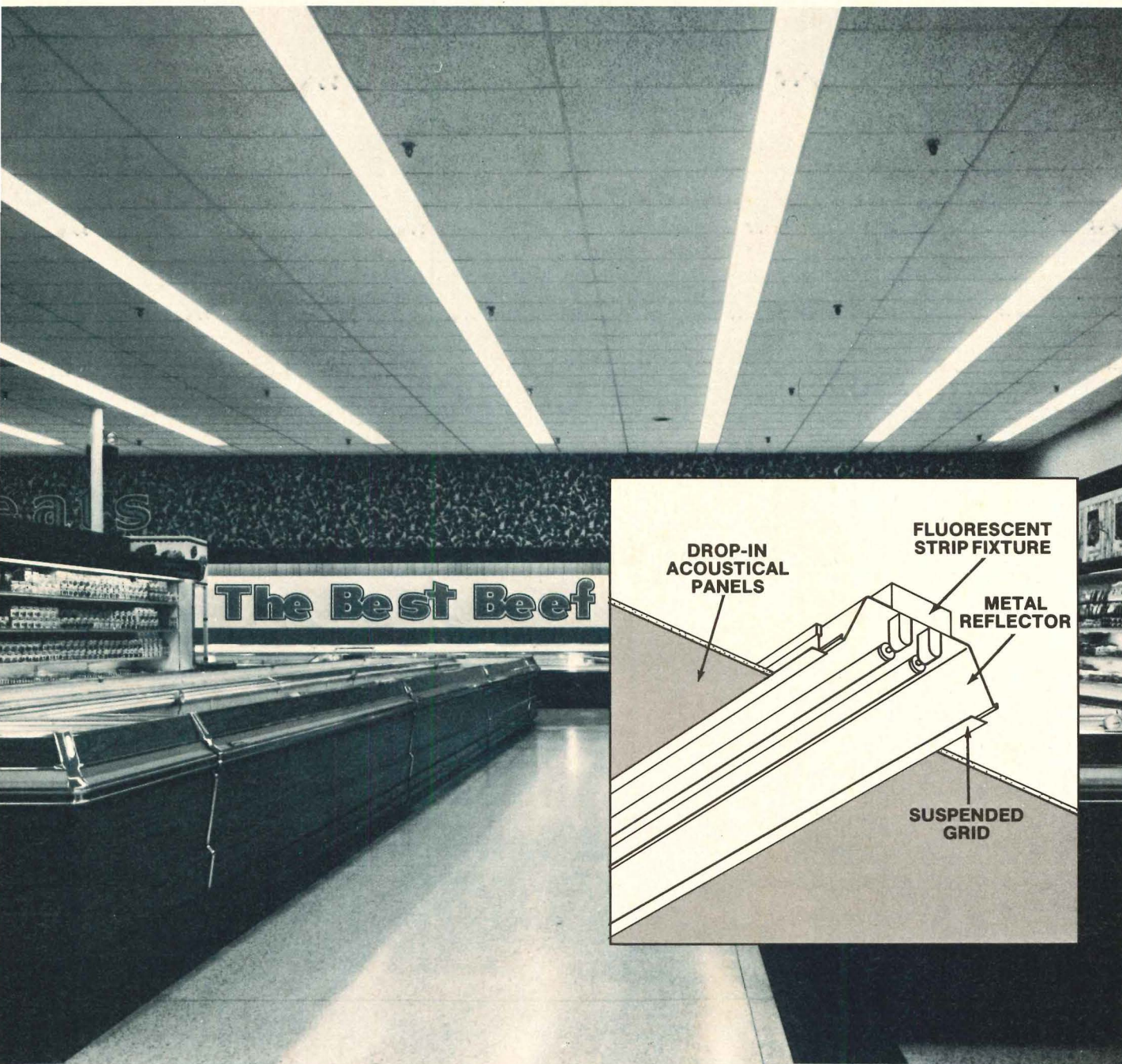
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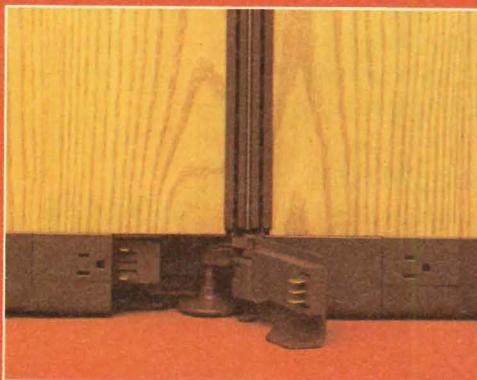
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March 1977

Progressive Architecture

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Design and planning  
Women in architecture

37 The woman behind the T square: Introduction

A major exhibit at the Brooklyn Museum and the publication of an accompanying book is on women architects: the well known and the lesser known, the past and the present. In this issue, a P/A editor writes about:

- 39 The domestic domain
- 41 The new professional: Historic beginnings
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- 56 Architectural criticism: Four women

58 Two machines

Two completely different "machine aesthetic" buildings, by two different architects, in two different cities, have recently been completed. They are:

- 58 Municipal Fire Station, Corning, N.Y., by Gunnar Birkerts & Associates.
- 62 Recreation Center, Baltimore, Md., by Designbank Incorporated.

64 Interior architecture: Music to my ears?

Philharmonic Hall in New York City, renamed Avery Fisher Hall, has undergone its fourth renovation. Here is an appraisal of the results of the latest effort.

Technics

76 The overhead that works for you

A discourse on the design freedom possible when functional elements can be integrated into the ceiling itself, and the materials that can be used.

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**Cover:** The pool, always a favorite with the guests at Hearst Castle, San Simeon, Calif. The estate was designed by Julia Morgan for the Hearst family from 1920 to 1937 (p. 41). Photo: David Morton.



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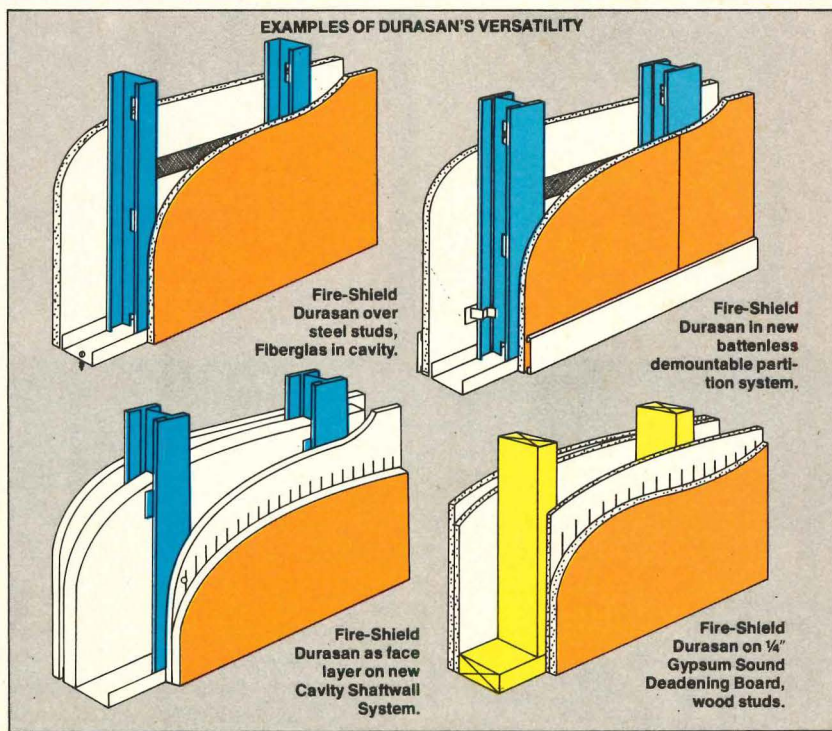
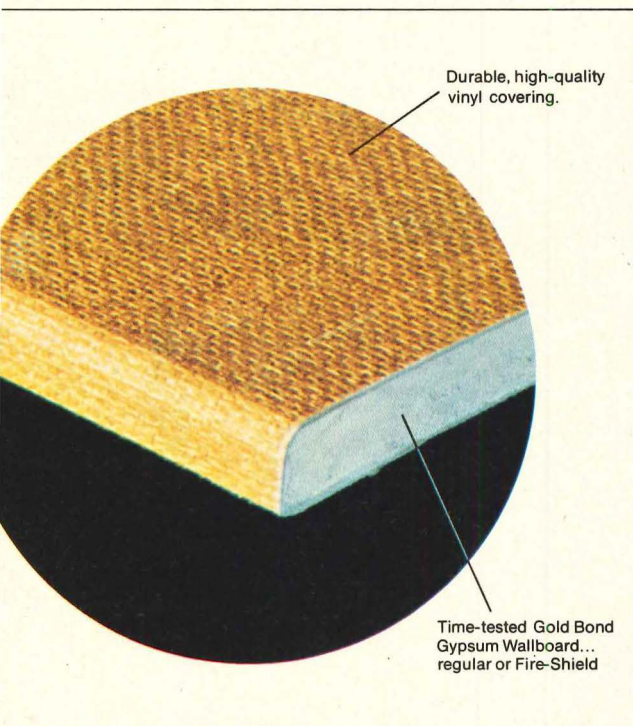
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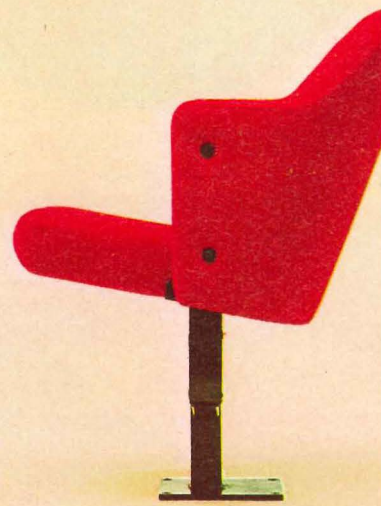
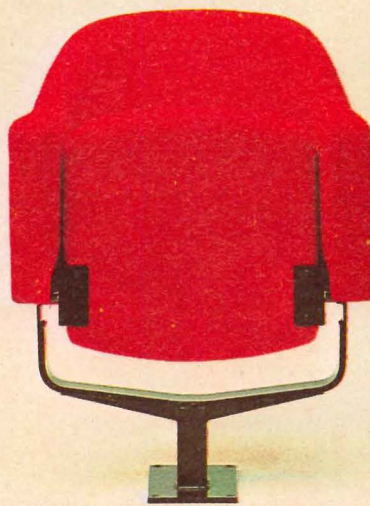
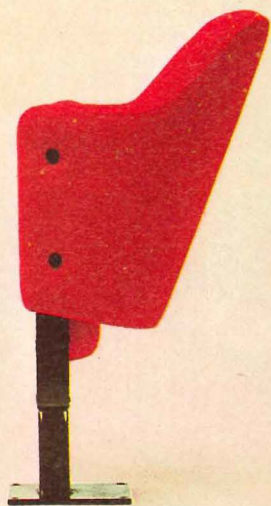
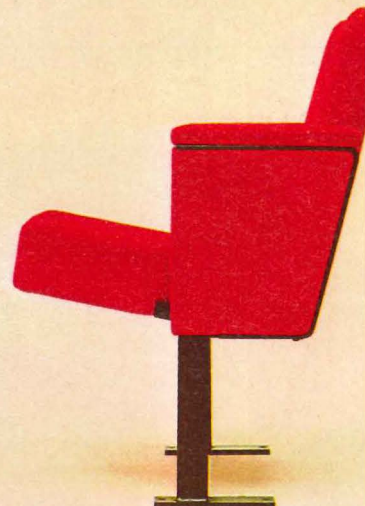
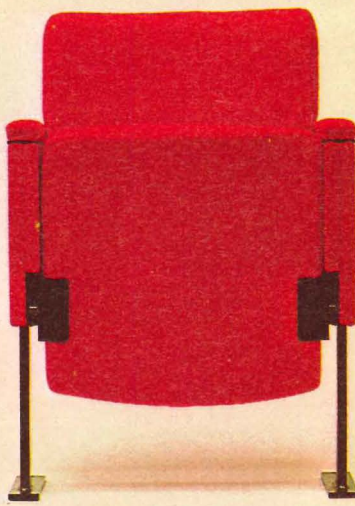
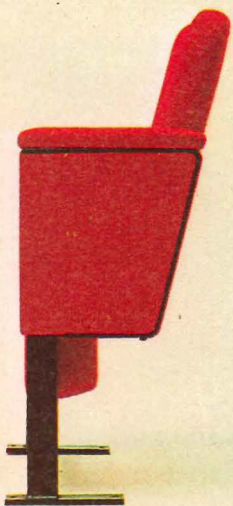
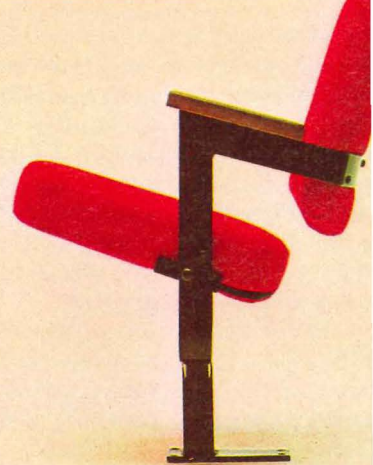
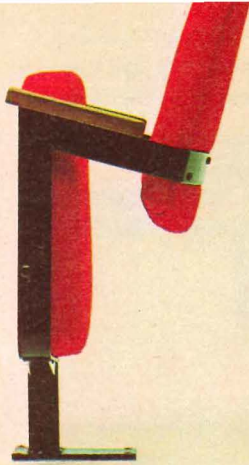
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# Women's place

March 1977

A few years ago, I was visiting a firm in a distant city—one whose work has been published in P/A and elsewhere. As I was talking with one of the partners, a woman slipped into the conference room for a brief, hushed conversation about which of two fabrics to specify for some seating; we were not introduced. Later, over dinner, we were discussing his staff. It turned out the interior design woman was his wife; they had been classmates at a most prestigious architecture school and had worked together ever since. Why was he the firm's best known partner, while she supported behind the scenes? His answer: She has a really rare sense of color and texture, which makes her invaluable for choosing materials. Too bad he isn't so blessed.

Most of you know of similar situations. Why do such apparent inequities come about, and why are the parties involved condoning them? The major part of this issue on **Women in architecture** takes up the obstacles to full participation in this profession, in the light of that intrepid few who overcame them—or are now trying to.

But the conditions behind these obstacles are worth considering. The explanation is not simply a defense of male domination, though that surely remains a major factor and the indirect source of other conditions. To summarize the situation:

**Traditional expectations of children** (girls excel in language and arts, boys in math and science) are surely crucial; math and science prerequisites become obstacles for women seeking professional training (obstacles that can now be avoided by pursuing planning or urban studies).

**Dropping out of architectural education** has always occurred with high frequency. (Statistics indicate that only about one third of current starters complete professional degree courses). For male students—until recently, at least—to drop out was to admit defeat; for females, there was less disapproval, even if the same personal defeat. And in the family-centered 1950s, many women cut short their architectural education to marry schoolmates—slightly older, typically—who were graduating and moving away to practice.

**Traditional marriage and child-bearing roles** have raised serious obstacles, especially during the baby-boom, building-boom years of 1946-1960. In a field with no adequate maternity provisions, child-birth interruptions were



Indoor pool at San Simeon. Julia Morgan, Architect. Photo: David Morton.

severe career setbacks. In earlier decades, women had pursued the professions *instead of* marriage and motherhood—and many do again today. But in the generation that now dominates the field, women were encouraged to try both. The two women among the founders of TAC (p. 48), for instance, raised numerous children with their partner husbands, sacrificing career continuity. Yet, husband/wife partnerships also gave women the invaluable security of an office to return to for whatever hours she could give it.

**Apprenticeship for women** has been the period of most overt bias. As pointed out later in the issue, women were often kept away from the job site, assigned to paraprofessional tasks, and otherwise discouraged.

In some respects, women have shared the problems of racial and ethnic minorities—in the difficulty of access to professional education, for instance, and the relegation to invisible backroom roles on the job (in the past, at least). But the parallels cannot be carried much farther. For one thing, the disadvantaged situation of blacks—and before them other minorities—has been recognized longer (Burchard and Bush-Brown's AIA-sponsored *The Architecture of America: a Social and Cultural History*, 1960, mentions their plight, but not that of women) and accredited institutions such as Howard University have long carried out the mission of educating blacks (mostly male) for careers in architecture.

One role of women that should not be overlooked here is the key part many nonprofessional wives traditionally play in running firms, marketing services, etc. The offices of many prominent men depend to a remarkable extent on the enterprise and management skills of the principals' wives—not to mention the historic role of Olgivanna Wright before and after the master's death.

But sex stereotyping is now breaking down, affirmative action is an established policy, and—most important—Americans are open to life patterns other than those centered on home and family. Women will be taking a fuller, more gratifying place in this profession. It's about time.

*John Morris Difer*





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Views

Awards judgments

Relative to your January 1977 Awards issue: On careful reading, the integrity and thoughtfulness of both the jury and the submissions came through, I think, beautifully. The awarded projects and jurors alike revealed to me the kind of thinking so necessary in the architectural profession—a concerned, careful, positive approach.

A most encouraging issue—totally professional at a time when professionalism is sorely needed.

Robert O. DiSaia, AIA  
DiSaia Associates Architects  
Providence, R.I.

In your editorial for the January P/A Awards issue, you have manfully accepted the responsibility for selecting the architectural awards jury and have even (I sensed) tried to apologize. Brave try—and better luck next time.

Robert S. Sturgis, FAIA  
Cambridge, Mass.

Writing to editors is a rare experience for me, but in reading through the 24th Awards issue (Jan. 1977), I can't resist an observation or two.

In your editorial I read: "We have ruled out some of the most creative figures in the professions because we expected them to behave like zealots, seizing on submissions that matched their ideals and dismissing all others out of hand." Laudable—until I get to page 49 and read that lulu by Dinkeloo, "The individual house has no place in American culture anymore."

I wonder if the word "house" could be removed and still reflect his philosophy? If so, I certainly hope that history will prove him to have been only a talented but distorted zealot.

It seems that so often when architects open their mouths, illusions are quickly replaced by realities.

William Sloan, Architect  
High Point, N.C.

In my opinion the January issue of P/A is a valuable piece of literature. There are many things that are truly educational, but also some that are false and would only be said or done by "impractical architects."

I like the design by Chimacoff & Peterson on p. 59. My recent drawings are based on a similar concept.

Henry E. Voegeli  
Cheshire, Conn.

Sun/Earth clarification

Concerning the text on the book *Sun/Earth*, citation winner for research (Jan. 1977 P/A, p. 72): Specifically, the article starts, "This book, which has been purchased and is now marketed by the AIA Research Corporation . . .". This is not an accurate statement and may lead to some confusion. [The inaccurate statement was taken directly from the awards entry—Editors]

Let me clarify the situation:

- 1 Richard L. Crowther, AIA is on the AIA/RC energy notebook committee.
- 2 Donald J. Frey and Lawrence C. Atkinson are

design integration monitors of solar projects for the AIA/RC.

3 The AIA, not the Research Corporation, offers the book on their publications list, but they are not an exclusive agent.

4 The majority of sales are handled by our office here in Denver. [\$12.95 per copy; discounts to schools and bookstores; for information write Crowther/Solar Group/Architects, P.O. Box 6539, Denver, Colo. 80206.]

On the positive side, we are grateful for the recognition that P/A has given to this book. We spent many hours putting it together, and are currently getting ready for a second printing. It's unusual for an architectural firm to become involved with publishing, but so far our efforts have been rewarded.

Donald J. Frey, PE  
Crowther/Solar Group/Architects  
Denver, Colo.

Galveston action

Thank you for the positive and articulate "Report from Galveston" by Peter Papademetriou (Dec. 1976 P/A, pp 26-27).

We do wish to acknowledge that the Venturi & Rauch study, "Action Plan for The Strand," was funded in significant part by a City Options Grant from the National Endowment for the Arts to the Galveston Historical Foundation. Selection of Venturi & Rauch, participation in the study, and final approval of the Action Plan was done by a broad-based Strand Planning Committee established by the Historical Foundation and including representatives from the Arts Council, Strand residents, City, Chamber of Commerce, and Junior League. Restoration and revitalization of The Strand area is moving forward vigorously and the Action Plan has proved a most effective guide for our efforts.

Peter H. Brink  
Executive Director  
Galveston Historical Foundation, Inc.  
Galveston, Tex.

Preservation not merely profitable

Progressive Architecture's "Restoration and Remodeling" issue (Nov. 1976) suggests the increasing sophistication of the preservation movement. With the greater Federal involvement and funding, existence of professional preservationists, and new sensitivity of architects, planners, and realtors, preservation is becoming large-scale, comprehensive planning for the protection and enrichment of our man-made environment.

In reference to Olmsted's Fairsted, mentioned in "News Report," page 25, Congress authorized a study to determine if the National Park Service should acquire the property. The Frederick Law Olmsted House was entered in the National Register of Historic Places, October 15, 1966, when it was designated a national historic landmark. Also, Irving Gill's Horatio Court West, discussed on pages 68-69, originally submitted to the National Register in 1968, was resubmitted to the National Register in October 1976.

As stated in the editorial, the proposed higher level of federal funding and modifications in the federal tax laws provide an economic incentive for preservation. Specifically, the changes in the Tax Reform Act of 1976 disallow the cost of demolishing historic properties. (But, the property owner can capitalize the demolition costs, thereby reducing his taxable profit when the new

building is sold). Ms. Miller's article on New York City's Villard Houses and U.S. Customs House also discussed preservation in terms of economics. It would be simplistic, however, to base preservation recommendations solely on economic considerations. Many of the benefits of preserving and improving our environment are not susceptible to measurement.

It would be unfortunate if P/A's readers were to assume that preservation has evolved from a program of saving houses of Revolutionary War heroes to one of saving those properties which offer the greatest economic return. That preservation is often economically profitable is an important benefit, but it is only one of the many benefits of renewing our built environment.

William Lebovich  
National Register of Historic Places  
National Park Service  
U.S. Department of the Interior  
Washington, D.C.

Arab work and Jewish professionals

Ellen Perry Berkeley has taken issue with the reference in P/A's October 1976 Editorial to her article "No Jews Need Apply," (The Village Voice, New York, Mar. 22, 1976). In this editorial I characterized her article as "relying heavily on innuendo." In saying this, I did not mean to question Ms. Berkeley's integrity, which we know to be of the highest; I and other editors here have known her and respected her for many years, as a former colleague on the P/A staff and as a valued friend.

By "relying heavily on innuendo" I meant that the content of the article was not substantiated—in print—by citing actual names and incidents. I did not mean to imply that she depended on dubious sources.

Ms. Berkeley points out that the P/A feature "The Adventures of Harry Barber in OPEC Land" depended, as did her article, on anonymity of sources. This is true; in fact, we adopted the device of fiction to make it explicit to readers from the outset that no actual names or situations would be revealed.

She also raises a crucial point regarding my reference to "the specter of economic inequities against Jewish practitioners and employees." Quite rightly, she stresses that "the ramifications of discrimination are never wholly economic," but involve professional growth, gratification, and status, as well.

For a full text of her observations of my Editorial and the problem in general, which we are unable to reproduce here because of its length, please contact Judith Wasson at P/A. Reprints of Ms. Berkeley's *Village Voice* article are available for \$1 at their offices, 80 University Place, New York, N.Y. or by writing Ms. Berkeley, Box 311, Shaftsbury, Vt. 05262 (while supply lasts). The Voice will mail the back issue for \$1.80. [JMD]

Correction and additional credit

George P. Willman was associate partner in charge for the First Bank of the United States by Day & Zimmermann Associates (Nov. 1976 P/A, p. 60). Lighting consultation was a cooperative effort of Design Decisions of New York and Raymond Grenald Associates of Philadelphia.

Photo credit due

The photo of the Metropolitan Correction Center by Gruzen & Partners on p. 62, July 1976 P/A, is by William Rothschild.





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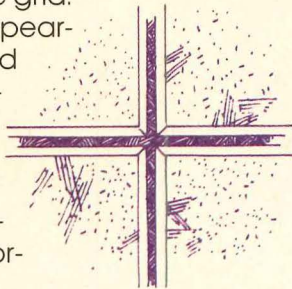
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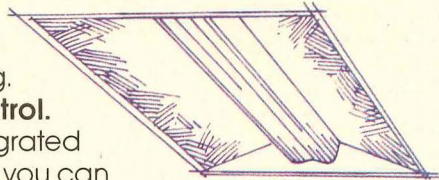
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Like Andersen's special wood treatment with a water-repellent preservative. One that helps resist warping, decay and insect attack.



Some windows you just can't judge by name alone. Unless the label bears the Andersen® Windowalls® brand. But if you still feel you need to know more about our name, you'll find Perma-Shield® Casement and Gliding Windows in Sweet's, File 8P. Or you can call your Andersen Dealer or Distributor. He's in the Yellow Pages under "Windows." Or write us direct.

The beautiful way to save fuel.

**Andersen® Windowalls®**  
ANDERSEN CORPORATION BAYPORT, MINNESOTA 55003



Printing limitations prohibit exact color duplication.  
Use actual sample for building specifications.

6111 Copyright © Andersen Corp., Bayport, Minn. 1976



# How to judge a window by its sticker.

## 1. Know what's in the name.

Over 70 years of dedicated craftsmanship and close attention to detail.

## 2. And what's in the window.

Rigid vinyl over wood, one of nature's best insulators. Carefully selected, moisture controlled and precision milled.

## 3. Know why the glass is functional.

Double-pane insulating glass isn't just added. But rather, it's made practical by Andersen's snug-fitting design and use of wood.

## 4. And why the window lasts.

The Perma-Shield rigid vinyl sheath doesn't rust, pit or corrode. Doesn't chip, flake, peel or blister. Stands up beautifully to time and weather, while demanding little maintenance.

## 5. Know how it helps buildings look beautiful.

Andersen's neat, trim lines and classic profile. And an exterior rigid vinyl sheath in your choice of white or Terratone with Perma-Shield Casement Windows. White vinyl inside and out with Perma-Shield Gliding Windows.

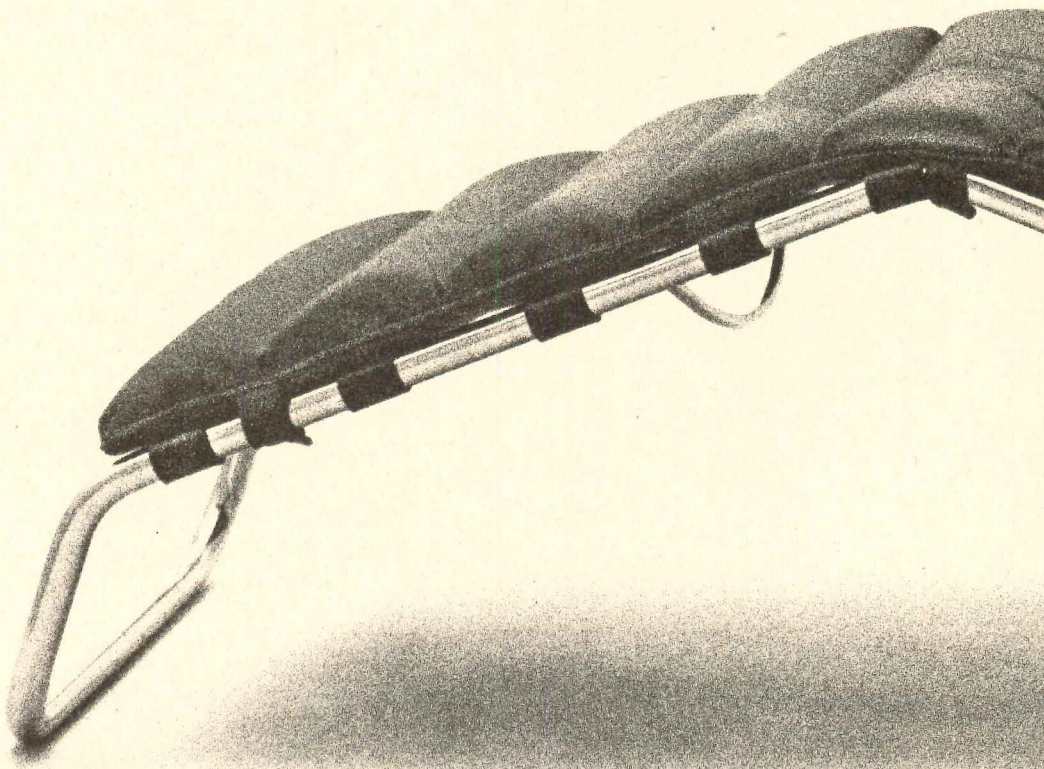
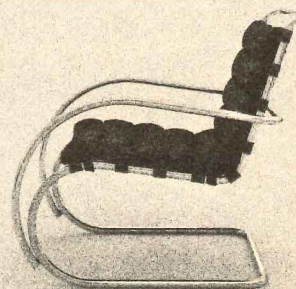
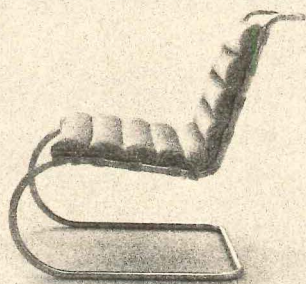
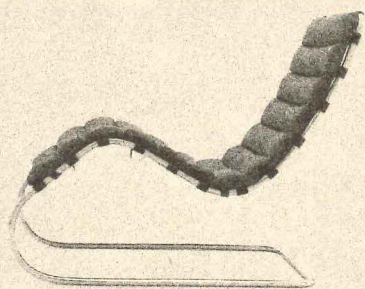
## 6. Helps make them cozy to be in.

A snug-fitting design two times more weathertight than industry air-infiltration standards. To help seal out drafts and dust, and help save on building heating and cooling bills.



# Mies van der Rohe The Museum of Modern Art Knoll International

"Mies van der Rohe: Furniture Drawings" opened at The Museum of Modern Art on March 3. With the eight furniture prototypes in the exhibit—are proud to have shared in this important moment in design.





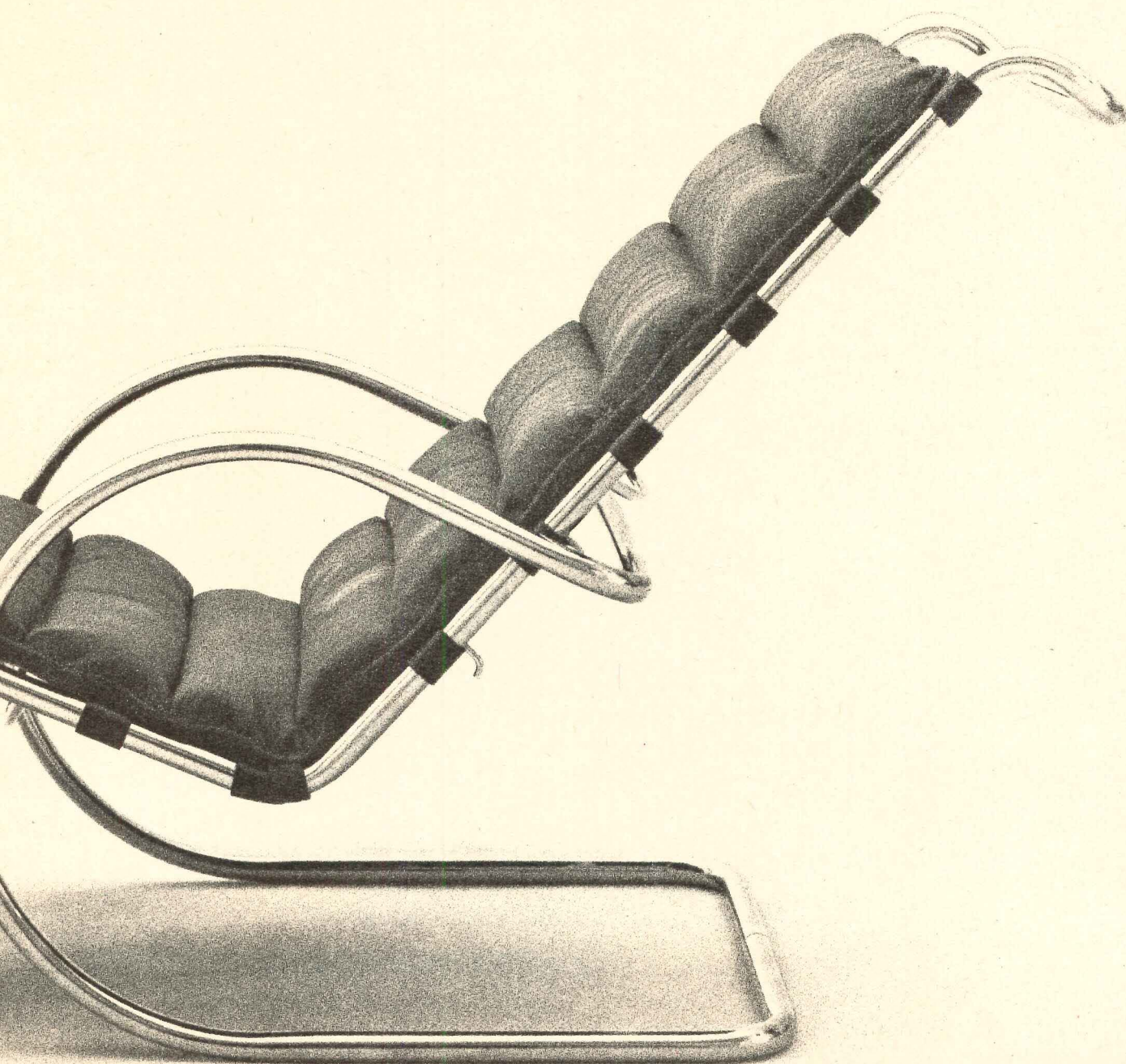
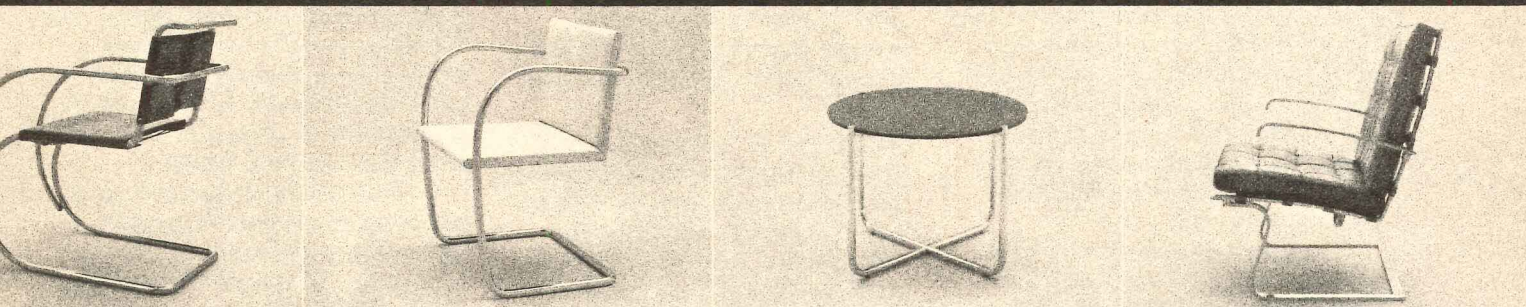
ld these Mies Archives  
uctions to our already  
ve Mies Collection. We think  
ors will covet the designs we  
t produced before: the MR  
g frame chair (1932), the  
hless chaise longue and coffee

table (1931), and the Tugendhat  
chair with arms (1929)—we  
restored two of these chairs from the  
Tugendhat House for The Museum.  
Also “new” are the Tugendhat and  
modified MR chairs covered in  
fabric.

The exhibit at The Modern runs  
from March 3 to May 3 and you can  
see our Mies Collection at the Knoll  
showroom nearest you soon.

**Knoll International**  
745 Fifth Avenue, New York 10022

Circle No. 358, on Reader Service Card





The gap between knowledge and documentation had to be closed.

And building designers and others had to be provided with a way to easily use the new proof.

Not easy tasks. But critical ones in an era when the energy performance of buildings is a matter of the highest priority.

For thousands of years people have known that buildings with masonry walls were more easily kept warm in winter and remained cooler in the summer. The reason was obvious: masonry walls both stored and slowed down the passage of heat, making interior climates more stable. A simple, observable fact. But no longer sufficient.

Designers and owners needed to know *how much better* masonry conserved energy than did competitive materials and systems. And they needed a simple way to calculate the differential.

Only then could masonry's superior thermal performance be reliably taken into account in meeting energy conservation goals and requirements. Only then could heating-cooling equipment be more accurately sized to save money on both initial and operating costs.

Disdaining "claims" without documentation, the masonry industry began a broad research project to quantify the relationship of the mass or weight of masonry walls to the transmission of energy. The masonry industry engaged a highly qualified firm of consulting engineers (Hankins & Anderson, Inc.) to conduct the study. Ten different walls ranging in weight or mass from four pounds ( $19.5\text{kg/m}^2$ ) to 116 pounds ( $567.5\text{kg/m}^2$ ) per square foot were specified for analysis in 10 widely varying climatic conditions. And in eight solar orientations.

Researchers used a special computer program built around the "response factor" method adopted by the National Bureau of Standards Load Program along with other computer programs. They analyzed U.S. Weather

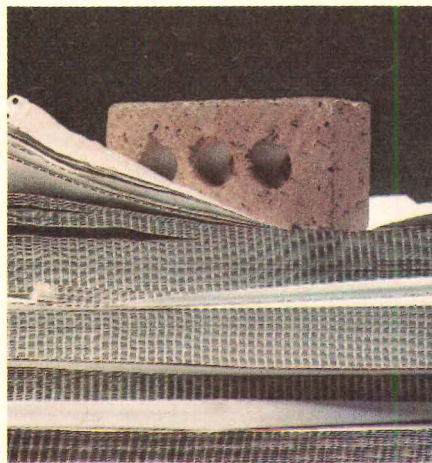
Bureau data and considered the effects of many variables, including the weight of walls, on thermal performance.

Results of the computer analysis showed:

- Traditional "U" value measurements of the thermal performance of walls are inadequate. They are based on the incorrect assumption that energy transmission occurs in a "steady state". Contrarily, the process is dynamic and varies greatly in relation to many factors, one being the weight of walls.
- Steady-state "U" value measurements therefore may often result in the oversizing of heating equipment for buildings with masonry walls (and the undersizing of such equipment for buildings with lightweight walls).
- The difference between steady-state and dynamic measurements can be accounted for by the use of a *correction factor*—the "M" factor—in making heat gain and loss calculations.

The consulting engineers' report and data consisted of 460,800 numbers on 1,200 pages of computer print-out. Important as this proof of the superior thermal performance of masonry walls was, it was not enough.

The task of developing a tool for the easy use of the findings remained. Masonry industry engineers began



studying and correlating the data to provide a simple *correction factor* for dynamic analysis.

The result: An easy-to-use "M" factor graph or curve.

Only two numbers are required in order to use the graph: the number of "degree days" in the locale (obtainable from the U.S. Weather Bureau) and the weight per square foot of the wall. The graph can then indicate the appropriate "M" factor modifier, or correction factor, to be applied to steady-state "U" value measurements. A more accurate measurement of the dynamic thermal performance of walls results.

The graph shows that in all cases, masonry walls perform better than lighter weight walls with the same "U" value rating. The heavier the wall, the greater the differential.

Results of the masonry industry study and the "M" factor graph have been submitted to the Conference of American Building Officials (CABO). And CABO has agreed that the effect of mass should be considered in making heat gain/loss calculations.

The "M" factor study findings are contained in a new Masonry Industry Committee publication, *Mass, Masonry, Energy*. With the findings are graphs and charts, and an explanation of how to use them. An all-in-one booklet—everything you need to know in order to take advantage of the superior thermal performance of masonry walls.

We're proud of the new proof that masonry walls save more energy than walls of competitive materials with the same "U" values.

We're proud of the fact that the masonry industry decided to produce this proof, rather than simply make a claim.

But our pride isn't important to you. What matters to you is that we've made it possible to design, build and operate buildings that will save energy and money.

We've got the proof. Just write for it at the address below:

**BEFORE WE COULD CLAIM THAT  
MASONRY CONSERVES MORE ENERGY THAN  
ANY OTHER BUILDING MATERIAL, WE  
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**INTERNATIONAL MASONRY INSTITUTE**

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The Mason Contractors and Bricklayers Union of the USA & Canada.



# News report



Los Angeles Bonaventure Hotel by John Portman & Associates already is attracting enthusiasts.

## L.A.'s Bonaventure opens in Bunker Hill

The Los Angeles Bonaventure Hotel opens this month in the Bunker Hill redevelopment area with acclaim to its architect. "Portman has done it again," said a member of an L.A. architectural firm. The \$100 million complex incorporating five levels of retail stores was developed by a joint venture of Portman Properties and a subsidiary of Mitsubishi Corp. of Japan. The architect was John Portman & Associates of Atlanta, creators of Peachtree Center, the original and instantly popular in-town megalopolis of modern times.

The central and tallest of the five sil-

very, cylindrical structures is 35 stories high; in all, the hotel will contain 1474 rooms to be operated by Western International Hotels. The first guests arrived earlier this year for the Rose Bowl game.

Bonaventure is connected with a number of aerial passageways to nearby buildings, including Atlantic Richfield's Arco Plaza by Albert C. Martin & Associates and the World Trade Center. Its presence already has made a positive impact on the hitherto founding redevelopment. With hotel bookings well into the future and everybody eager to try the Bonaventure's restaurants in exotic surroundings, "It's given the downtown a shot in the arm."

## 'Shipping tube' tops Detroit Renaissance

The round, 70-story Detroit Plaza Hotel is nearing completion as the centerpiece of Renaissance Center, a John Portman & Associates \$337 million project in Detroit. Since Portman's 70-story Peachtree Center Plaza Hotel in his own city of Atlanta (P/A Mar., 1976 p. 21) claims to be the world's tallest hotel, the question now arises as to which one is the tallest. From basement to top, Peachtree is, but from main entry to top, Detroit is—and it's wider as well—which supports Detroit's claim that it's "the tube Atlanta's was shipped in."

Developer of the 33-acre downtown project along the Detroit River is the 51-member Renaissance Center Partnership. The center includes four 39-story office towers, two of which already have occupants, over 100 shops in the interconnected lower level, and supporting parking, restaurant, and entertainment facilities. The 14,000-room hotel will be ready this month for its advanced-booked guests, accommodating them on 30 floors, and by April 15 it will have a public opening of all floors. With the remaining two office towers opening later in the spring, Renaissance Center will take its place among the rising number of megacenters of the 1970s.



Detroit Plaza Hotel, 70 stories tall, rises to completion as the centerpiece of Renaissance Center, Detroit. The \$337 million waterfront development is expected to revive the downtown.





Dorothy Alexander

Critic Ada Louise Huxtable one of nine honored.

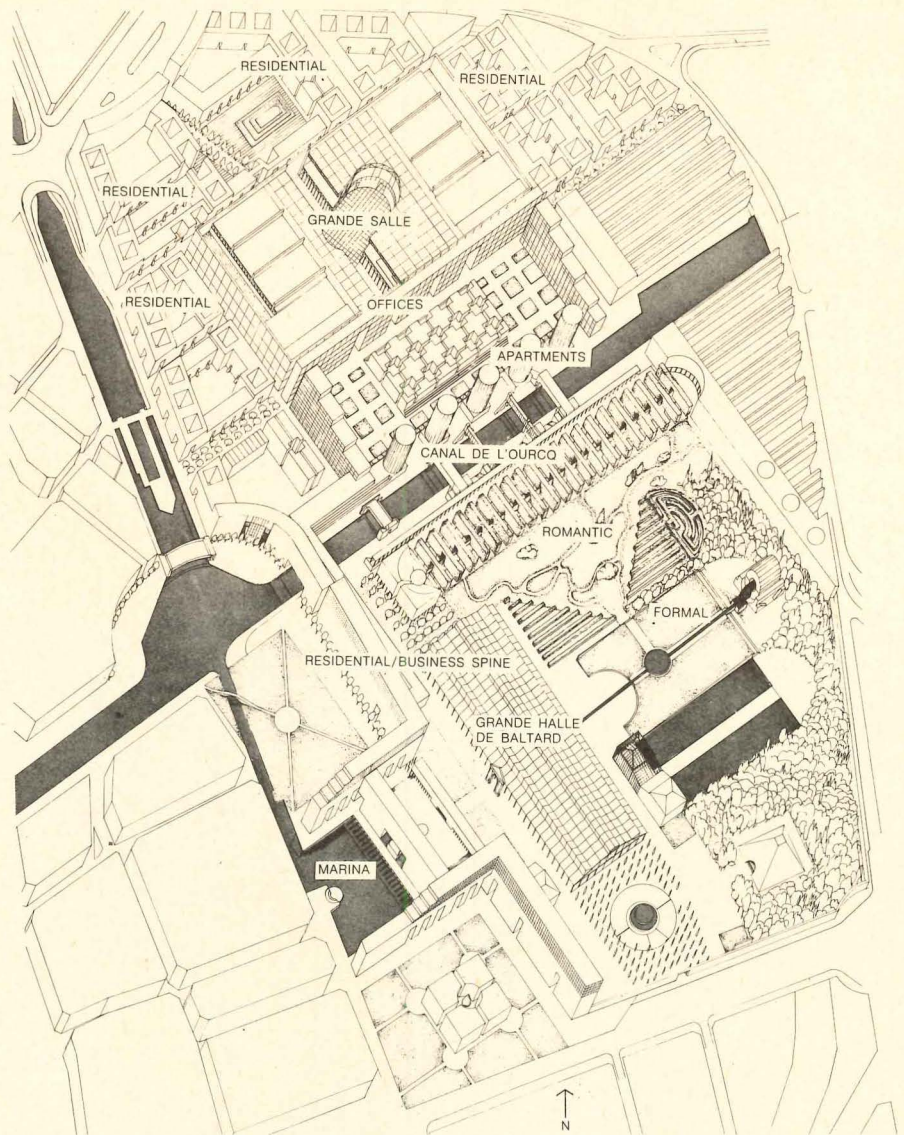
## Academy-Institute names nine

Nine Americans including industrial designer Charles Eames, architect Romaldo Giurgola, and architecture critic Ada Louise Huxtable have been elected to the American Academy and Institute of Arts and Letters. The honor, considered one of the highest, is for outstanding creative work in the arts. Others so honored this year are painter Lennart Anderson, novelist Hortense Calisher, writer Elizabeth Hardwick, novelist/playwright Joseph Heller, composer Alan Hovhaness, and artist Kenneth Noland. Induction ceremonies will be held in New York at the Academy-Institute on May 18.

## Woman's railroad hotel threatened

One of the last two surviving hotels designed by a woman architect for the Santa Fe Railway line is in peril of demolition, but a group has organized to save it. The threatened facility is the Harvey House in Barstow, Calif., a 29-room hotel built by restaurateur Fred Harvey as one of a chain of railroad rest stops. The building, completed in 1911, includes dining rooms, reading and recreation rooms, as well as depot facilities. The architect was Mary Colter, now deceased, who at the time was one of only five women architects practicing in the United States.

Save the Harvey House Committee under the auspices of the Mojave River Valley Museum in Barstow is endeavoring to rescue the building, which is



La Villette entry by Diana Agrest, Mario Gandelsonas, and Jorge Silvetti.



Mojave River Valley Museum

Harvey House by Mary Colter, Barstow, Calif.

no longer wanted by Santa Fe Industries, its owner. Fixtures reportedly are being sold to junk dealers, and while no decision has been made about the future of the building, there seems to be a reluctance on the part of Santa Fe to explore recycling possibilities. "It's outlived its usefulness," a Santa Fe official commented with finality. Heading the committee to save the station is Winona Kenyon of Barstow. The station is listed in the National Register of Historic Places and is in very good condition structurally, said Ms. Kenyon.

## U.S. team wins second prize abroad

The \$13,000 second prize in the Competition for the Redevelopment of La Villette in Paris went to a United States team of architects: Diana Agrest, Mario Gandelsonas, and Jorge Silvetti in collaboration with A. Latour. In all, nine prizes and two honorable mentions were awarded in the international competition held last year; first prize went to a French team.

The program was redevelopment of a 135-acre district in northeast Paris, La Villette, formerly the slaughter houses and meat market. Among the existing buildings to be preserved are the Grande Halle designed by Baltard and built in 1866 and the Grande Salle. The area is distinguished by two large canals. The U.S. winning proposal placed a dense grouping of residential and business structures in the area north of the Canal de l'Ourcq. In the



center is the Grande Salle to be transected by streets to integrate the large building on a city scale.

South of the canal is a major park embracing three distinct elements: a Romantic garden of hedges sculpted into arches—nature architecturalized; a formal garden with a watercourse and fountain; and a third zone of two mirrorlike basins of water. In the park is the Grande Halle de Baltard, to be used for fairs and exhibitions. The park is conceived as mutual entry for both the new development and the city of Paris.

Along the west canal will be a spine of buildings containing residences and businesses. The overall goal was "to capture the dialectical relationship between architecture and urban form."

The Atelier Parisien d'Urbanisme sponsored the competition and had its representatives on the jury; also serving as a juror was British architect James Stirling.

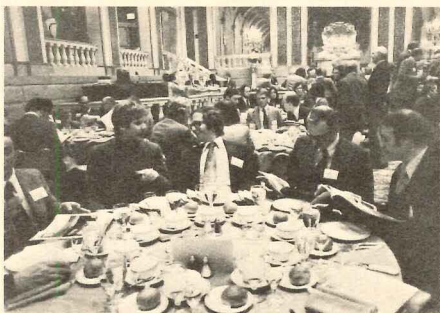


Keynote speaker Brendan Gill.

## Brendan Gill speaks at P/A Awards lunch

Noted critic Brendan Gill, for 40 years on the *New Yorker* staff, explained to the largest gathering yet at an annual P/A Awards presentation why his love for architecture did not yield a career in the field but rather a lifelong hobby. "It's marvelous to care very much for a profession that you don't have to earn a living in," he said. Gill recalled that from his earliest years he had had a passion for architecture, but "the requirements for entering architecture school were far too restricting for my spiritual, lyrical nature." In recent years he has been a widely acclaimed speaker in architecture circles.

Though acknowledging that most of the winners in the P/A Awards program are actually buildable, he wholeheartedly commended their "fantasy" qualities. "I love the idea of monas-



Winners get first look at January Awards issue.

teries and crematoriums, and underground cities; it matters little to me whether that underground city ever gets built. That's the kind of thing that fertilizes other architectural imaginations and causes big jumps forward."

Gill's talk touched on a number of subjects in a light vein—Wright's ability to magically receive commissions by "spellbinding" the client with his rhetoric (architects are often good speakers—but terrible writers); and his long-time close friend, architect Philip Johnson, who was Awards speaker two years ago ("Johnson was one of my most gifted students," Gill conceded). He concluded with a serious look ahead to New York, symbolic city, by predicting a future as a world communications and cultural center—without factories—in which loft buildings would be transformed into more artists' homes and galleries. This development will not be easy for architects, who basically are exhibitionists, according to Gill, but if Philip Johnson can become a rehab architect by re-designing Avery Fisher Hall in Lincoln Center, why not all? "Be sunny and cheerful about remodeling!" he admonished.

Gill wants to end his career by doing a book on architects' own houses. He looks forward, in his "ninth decade" to tottering around the world taking photographs of "these extraordinary objects architects have no excuses for."

## Ad Awards recipients gather at Plaza Hotel

Winners of awards presented by *Progressive Architecture* for outstanding advertisements met at the Plaza Hotel in January to receive plaques especially designed for the awards and to hear constructive criticism of architectural advertising from the jury of architects (Jan. P/A, p. 28). An estimated 80 winners and guests attended the second annual Advertising Awards



Editor John Dixon presents First Award to Bernard Maquet of Santa Monica, Calif., for design of a monastic retreat in California.



Viewing slide projection of their citation-winning project: Jan Frankina and Myron Miller (Arrowstreet) with editor John Dixon.



Publisher Philip Hubbard with panel of jury members at presentation seminar of Ad Awards.

seminar sponsored by P/A.

The 24 winning ads were selected from an eligible 320 which appeared in P/A during 1976. Present to receive the awards were producers and representatives of their advertising agencies.

Each winning ad was shown by a rear-screen projection while jury members discussed its specific points considered during the judging. Criteria for their choices were: impact, design quality, information, and recognition of specifiers' interests. Quantitative measures of audience response to the winning ads (Readex scores and numbers of inquiries received) were reported.

The jury recounted some of its more heated discussion on the appropriate amount of information (how much data is too much?) and on some advertising claims that undermine credibility. Scantly clad females—the jury also noted—"are insulting to the reader's intelligence."

After the seminar the winners attended the 24th Awards luncheon held in honor of winners in the annual P/A Awards competition for design, research, and planning.

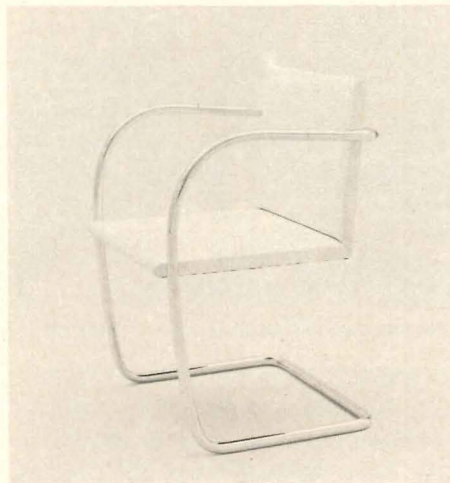


## Mies furniture at MOMA show

"Mies van der Rohe: Furniture and Drawings," an exhibit of little-known furniture designs by the master, who created the famous Barcelona chair, will be at the Museum of Modern Art, New York, through May 3. Material for the exhibition was selected from the Mies Archive established at the museum in 1968 a year before Mies' passing.

Eight prototypes also will be displayed; these were produced by Knoll International, which intends to commercially manufacture the furniture this year. A grant from Knoll has made possible the exhibition. Ludwig Glaeser, curator of the Mies Archive, directed the exhibition effort and its accompanying catalog. Plans for a tour of the show are being discussed.

Among the prototypes are a reclining frame chair, a chaise lounge, and coffee table, and the Tugendhat chair from the house in Brno which Mies designed in 1929.



Brno chair, 1929/30, Mies van der Rohe.

## Richard Neutra AIA Gold Medalist

The late Richard J. Neutra, noted as one of the first to bring the International Style to the United States, was named recipient of the Gold Medal, the highest honor awarded by the American Institute of Architects. The Austrian-born designer came to the U. S. in 1923 following collaboration with Eric Mendelsohn on the award-winning business center design for Haifa. He

first worked in Chicago with Holabird & Roche where he fell in love with American technology. After spending a few weeks in Spring Green, Wis., with Frank Lloyd Wright, he traveled west to Los Angeles where he practiced for 45 years until his death in 1970.

Neutra shared an office in L.A. with his countryman, R.M. Schindler; a joint project of theirs was one of three award-winning designs for the League of Nations. Before completing his famous Lovell House, 1929, Los Angeles, he returned for a year to Europe where he developed deep sympathies for the Bauhaus. At the beginning of World War II he turned from designing with metal, now scarce, to natural materials. His keen interest in landscape architecture began in Switzerland in 1920, and working with the natural environment became an important part of the planning and siting of his houses.

Neutra won numerous AIA honor awards for his designs. He is the first architect to receive a Gold Medal since 1972 when Pietro Belluschi was the recipient. Since its inception in 1907, the Gold Medal has been conferred almost annually, but not always. During the 1960s, an equal number of medals

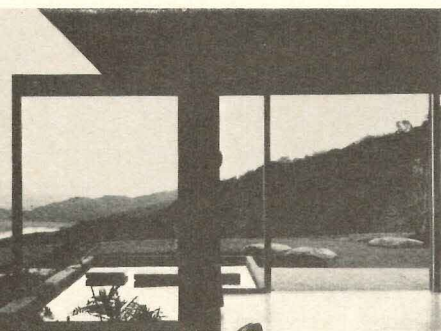
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Julius Shulman

Neutra's Singleton House, Los Angeles, 1959.

went to architects abroad as to those in the U.S. implying lack of agreement as to which American architects to honor.

## AIA confers 1977 achievement medals

The American Institute of Architects has conferred nine medals in recognition of outstanding achievements. The honors will be bestowed at ceremonies during the AIA convention in San Diego, Calif., June 5-8.

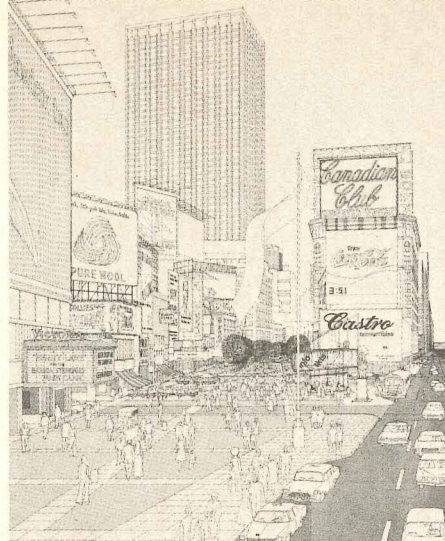
Recipients are G. Holmes Perkins, former dean of the University of Pennsylvania Graduate School of Fine Arts; Barbara Ward, British author of books

on economic and environmental development; and the Walker Art Center, Minneapolis, Minn., source of exceptional exhibitions and publications promoting quality design. These medals were given in recognition of influence on the architectural profession.

Medals for artistic achievement have been awarded to sculptors Louise Nevelson and Claes Oldenburg, and medals for recording architectural accomplishments were awarded to Arthur Drexler, head of Architecture and Design, Museum of Modern Art, New York, and the 44-year-old program conducted by the federal government to assemble a national archive of architecture: the Historic American Buildings Survey, a collaborative effort of the Library of Congress, the National Park Service, and the AIA.

Medals for urban projects went to the City of Boston for its revitalization of the downtown and the waterfront and to the Pittsburgh History & Landmarks Foundation for its preservation of architectural heritage.

In addition, the Institute has named 11 honorary members from outside the profession and 11 honorary fellows from six countries abroad.



Planned pedestrian mall for Times Square.

## Times Square a pedestrian mall

Tampering with the "nature" of cities is risky—not an exact science—and when the essential urban characteristics are altered, the results often are disappointing. Recent attempts of downtown renewal through de-urbanization have proved this. Therefore when announcement came that a pedestrian mall would be created in the heart of Times Square, the epitome of city scale, can one be forgiven for feeling skeptical? The thought of a suburban type promenade—or even a Eu- [continued on page 27]

# ,000,000-cycle closer.



The Security Analysts.



HARDWARE DIVISION, EM-HART INDUSTRIES, INC.  
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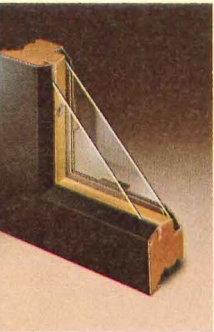
Electric heat required top insulation—  
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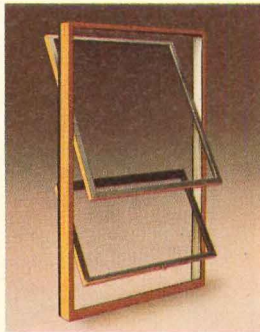
contemporary bay window treatment of the Fairmont  
dominium is not for looks alone. It is used to house the  
electric heating and air conditioning units for each apart-  
ment. These units are located directly below the windows in  
a cabinet that's flush with the inside wall. Pella clad panels  
and louvers below each window provide venting for the air  
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The building is experiencing lower heating costs than

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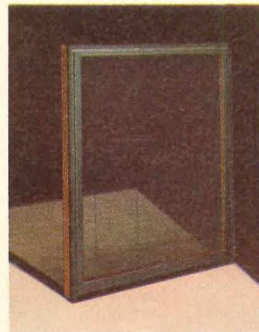
offers an aluminum  
cladding in attractive col-  
ors — the natural  
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grain. Aluminum exterior  
is no painting — won't  
crack, or peel.



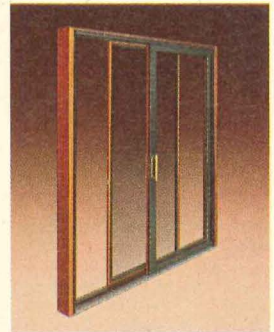
Pella's Contemporary Double-Hung pivots as shown  
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glass from inside. This  
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tenance such as sash re-  
moval for reglazing easy  
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System.



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self. Doors may be speci-  
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ding in attractive colors.

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# Report from Atlantic City

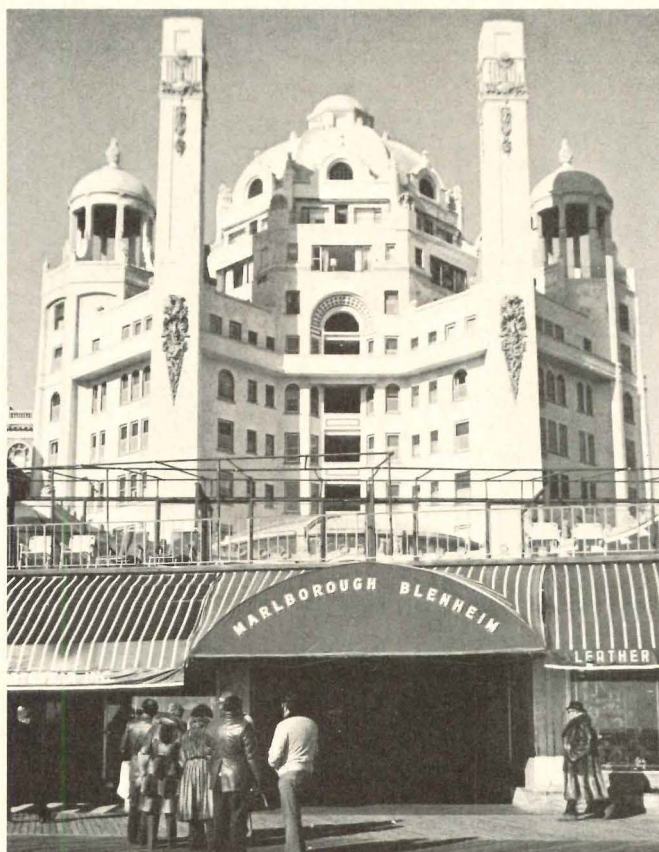
Gambling is supposed to save Atlantic City—once America's greatest popular resort and more recently a woebegone spa. But save the old resort hotels it may not.

Last year New Jersey voters approved casino gambling. Before that, Atlantic City properties had been changing hands more rapidly than in a game of Monopoly, which borrows names from those here. Now the prices are up, and the city is the biggest gamble of all: the rules are yet being written by state legislators in Trenton. Debate centers around regulations that would require a minimum number of rooms for hotels to qualify for a casino license. The fixed number could bring windfalls to some, ruin to others.

Although architects see jobs coming from both new construction and renovation, the legislators hope that by requiring casinos to be located in large hotels—larger than now exist—they will induce new construction which will bring lasting prosperity. The chairman of one key legislative committee suggested that the entire city may have to be leveled except for the Boardwalk.

Some fear that Atlantic City will turn into "another Las Vegas" and lose those tarnished but distinctive architectural elements that give the city character. Along the Boardwalk are a handful of hotels and other structures, most built between World War I and The Depression, that rank among the most rambunctious and fanciful works of that eclectic period.

One hotel, the Dennis, is vaguely Gothic at Boardwalk level so that its windows match the Ivy League baronial interiors of its public rooms. Above



The Marlborough Blenheim (left) with its Moorish fantasy architecture is one of several grand hotels in Atlantic City imperiled by casino gambling. The Dennis is shown at right.

Elaine H. Shapiro



are mansard roofed pavilions which give way to a high-rise Georgian.

The most important of the hotels is the Marlborough-Blenheim, part of which is a Moorish fantasy in reinforced concrete decorated with huge reliefs of sea creatures. It was designed by William L. Price, the Philadelphia architect whose Traymore Hotel (P/A July 1974 p. 19) was demolished five years ago and whose work recently has been rediscovered. The Marlborough Blenheim and such surviving grand hotels as the Dennis, Chalfonte-Haddon Hall, Claridge, and Shelburne were expensive and somewhat vulgar showpieces catering not to the rich but to the middle class. Their huge and lavishly ornamented public rooms gave visitors a taste of how the rich lived.

These public rooms are eminently suitable for gambling casinos which are, after all, only an extension of the fantasy in which Atlantic City always has specialized.

Resorts International, a Florida-based company that operates casinos in the Bahamas, has purchased Chalfonte-Haddon Hall, the only old hotel

which unquestionably will have enough rooms to qualify for a casino license, and has announced plans to refurbish it. The company also has commissioned Atlanta architect John Portman to design a new hotel, casino, and entertainment center on urban renewal land cleared some years ago. Resorts International campaigned strongly for the casino referendum and likely will set a high standard in both its rehabilitation and new construction.

Atlantic City's future is to be determined by legislators and property owners, few of whom have previous ties to the resort. "To just let things happen here would be a sacrilege," Portman told a gathering of business and government leaders. But in a city which has just hired its first full-time planner and recently was interviewing firms to prepare a comprehensive plan, uncontrolled boom town development seems likely. By the time the future of Atlantic City is decided, it probably will have happened. [Thomas Hine]

*Mr. Hine is architecture writer and critic for the Philadelphia Inquirer.*



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ropean piazza—in the midst of such an obviously high intensity, 20th-Century urban setting seems, to say the least, incongruous.

The plan will enter first stage implementation this summer with a \$500,000 federal grant from the Urban Mass Transportation Administration for changes in traffic signage. When fully realized, the mall will cost nearly \$5 million, which the city hopes to obtain from the same federal agency.

To create the plaza mall, traffic down Broadway will be diverted for three blocks onto Seventh Avenue, which borders Times Square. Crosstown traffic through the mall, however, will not be affected. The encourage use, special events and information kiosks will be provided.

Straw Poll Ballot

1 Agents

Agents, with proper regulation, should be allowed.

☐ Yes ☐ No

2 Free sketches

Architectural services at no charge, including sketches, should be permitted without restrictions.

☐ Yes ☐ No

3 Advertising/listings

Architects should be able to advertise and to list their qualifications in directories.

☐ Yes ☐ No

4 Design/build

Architects should be allowed to offer to their clients other services, including contracting.

☐ Yes ☐ No

5 Professional standards:

Should remain basically the same without substantial changes.  
Need to be revised and made more liberal.

☐ ☐  
☐ ☐

6 Check applicable terms:

		AIA member	<input type="checkbox"/>
		AIA associate	<input type="checkbox"/>
Architecture student	<input type="checkbox"/>	Partner/principal, architectural firm	<input type="checkbox"/>
Architecture graduate	<input type="checkbox"/>	Employee, architectural firm	<input type="checkbox"/>
Registered architect	<input type="checkbox"/>	Other [_____]	<input type="checkbox"/>

Comments are invited after each of the above statements.  
To vote, clip or copy this ballot and mail to STRAW POLL,  
Progressive Architecture, 600 Summer St., Stamford, Ct. 06904

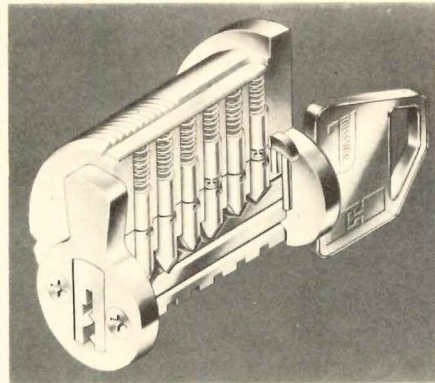
Straw poll on ethics changes

The ballot on this page may be clipped or photocopied and returned to P/A for count in a straw poll appearing in the May issue, which will address the theme: The future of architecture.

In San Diego, June 5-8, the American Institute of Architects will vote on changes to its ethical code touching on such topics as paid advertising, the use of agents in securing work, the practice of design/build, and the service of free sketches. While the 26,000-member Institute represents less than half the profession (there are about 60,000 registered architects, plus unregistered graduates and others working in offices), the standards set by the AIA certainly will shape the architect's perception of himself and the public's view of the profession.

About the only way to pick the New Emhart High Security Locking System is to select it.

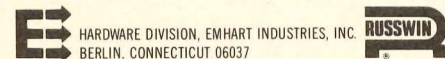
When you specify a lockset incorporating the new Emhart High Security Locking System, you have the key to positive building protection in your pocket. The odds against a would-be intruder beating the system are astronomical!



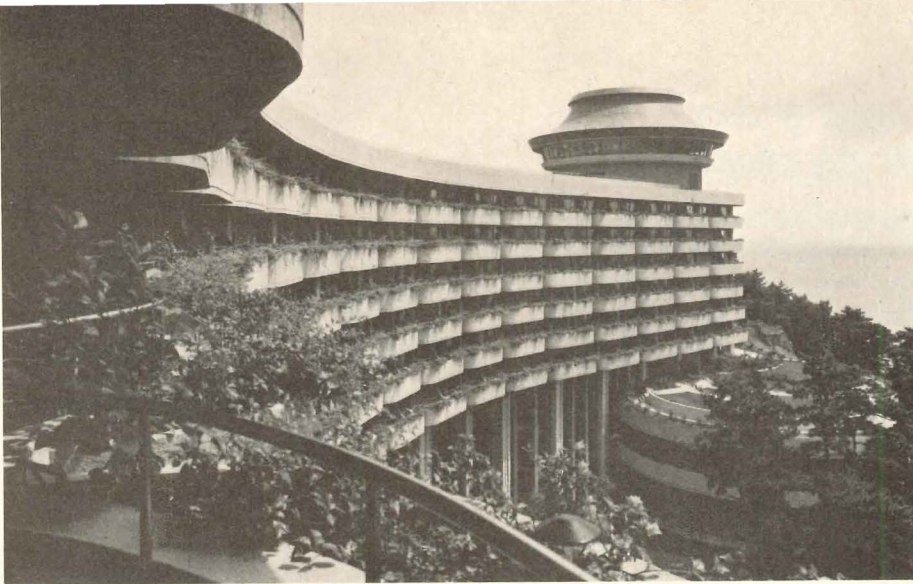
It's designed so that angular cross-cuts in the key bit\* rotate the multi-section tumbler pins a precise number of degrees. This lines up T-slots in their upper ends with mating projections in their upper sections to activate the cylinder. Considering the possible combinations of angles of rotation in the 6-pin cylinder, it's virtually impossible to operate without the key!

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Ibusuki Kanko Hotel, Kyushu, Japan, by Hawaii architectural firm.

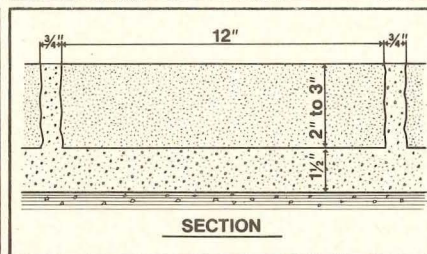
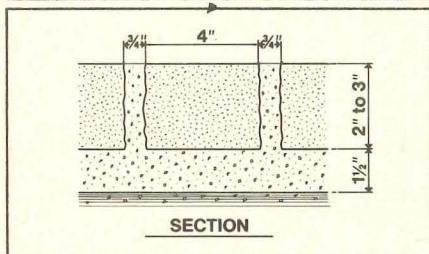
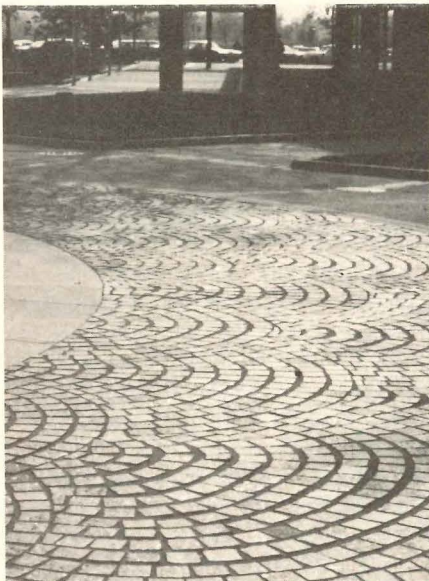
## News report



Hyatt Regency Waikiki, Hemmeter Center.

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## Hawaii firm's two new hotels

The new Hyatt Regency Hotel in Waikiki, Hawaii, and a resort hotel in Kyushu, Japan's southernmost island, were designed by Wimberly, Whisenand, Allison, Tong & Goo of Honolulu, Hawaii. The Hyatt Hotel's 1260 rooms are located in twin octagonal towers that are part of Hemmeter Center, a superblock mixed-use development. Lawton & Taylor were associated architects on the Hyatt project.

Japan's Ibusuki Iwasaki Kanko Hotel with 466 rooms, is the first of a long-range program to build resort clusters on semi-tropical Kyushu. The hotel site is the crest of a hill that slopes down to the sea; gardens and a natural pine forest surround the building, which has a central garden court open to the sky.

## 'Cityscale' funds awarded by NEA

Grants totaling nearly \$1 million have been awarded by the National Endowment for the Arts in its "Cityscale" program. The grants—44 of them—go for city improvements on a human scale. For example, \$40,860 went to New Orleans, La., for fountains and animated water displays in a park and cultural center; and to Louisville, Ky., \$47,000 for a program leading to better use of alleys in three residential and commercial neighborhoods.

Cityscale is the third phase in NEA's Architecture & Environmental Arts National Theme program. The first was City Edges in 1973, and the second, City Options, in 1974 and 1975.

[continued on page 32]



## New offices for a firm of architects/engineers.

Henningson, Durham & Richardson sited their striking headquarters building on a grassy hill in Omaha. Behind the concrete and reflective glass facade are housed more than 350 architectural and engineering specialists and support personnel. Interfloor traffic of employees and visitors is handled smoothly by fast, dependable Dover Traction Passenger Elevators. For complete information on all Dover Elevators, write Dover Corporation, Elevator Division, P. O. Box 2177, Dept. B, Memphis, Tennessee 38101.

HDR Place, Omaha, Nebraska

ARCHITECTS: Henningson,  
Durham & Richardson

CONTRACTOR:

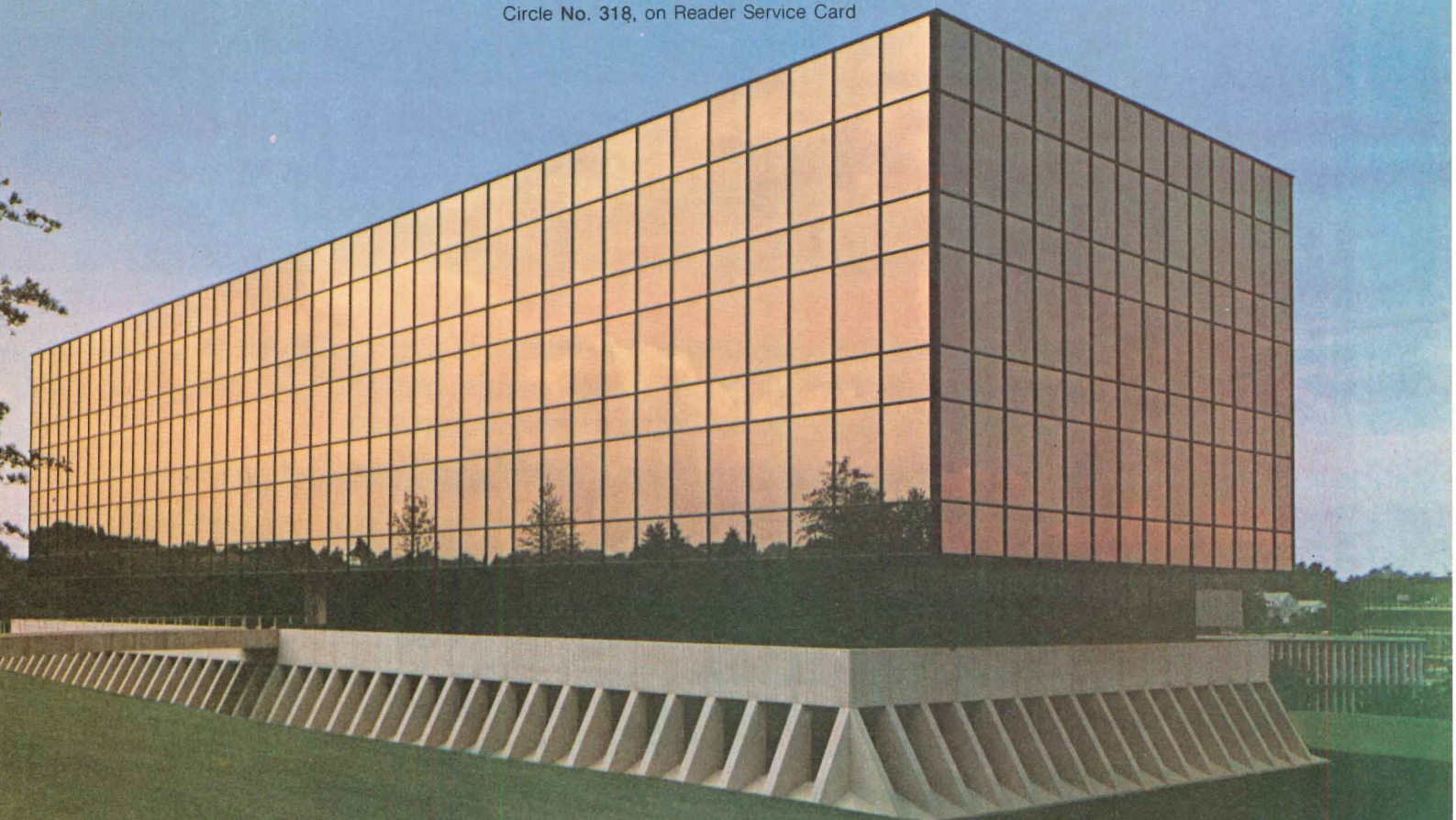
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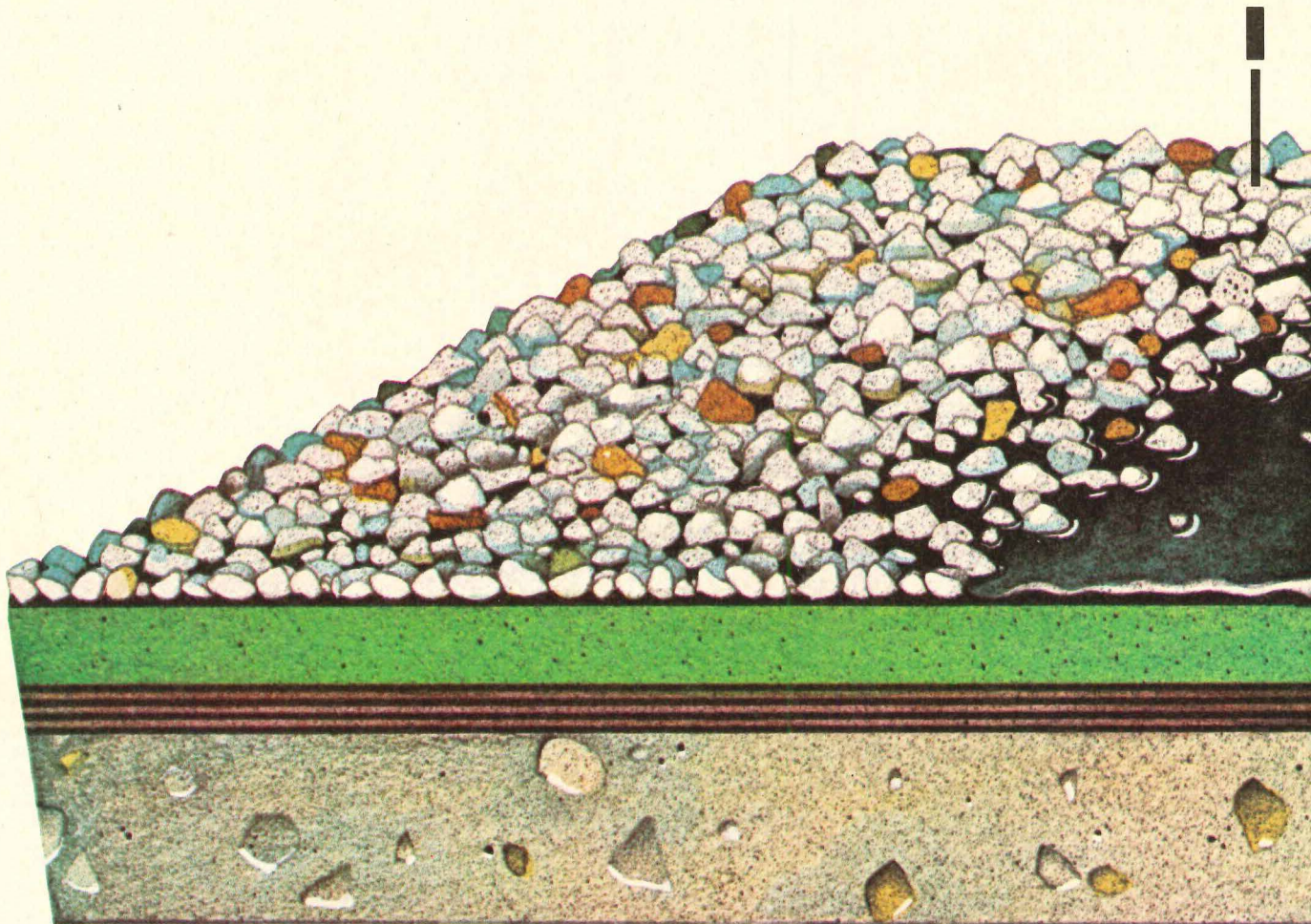


# ELEVATORS BY DOVER



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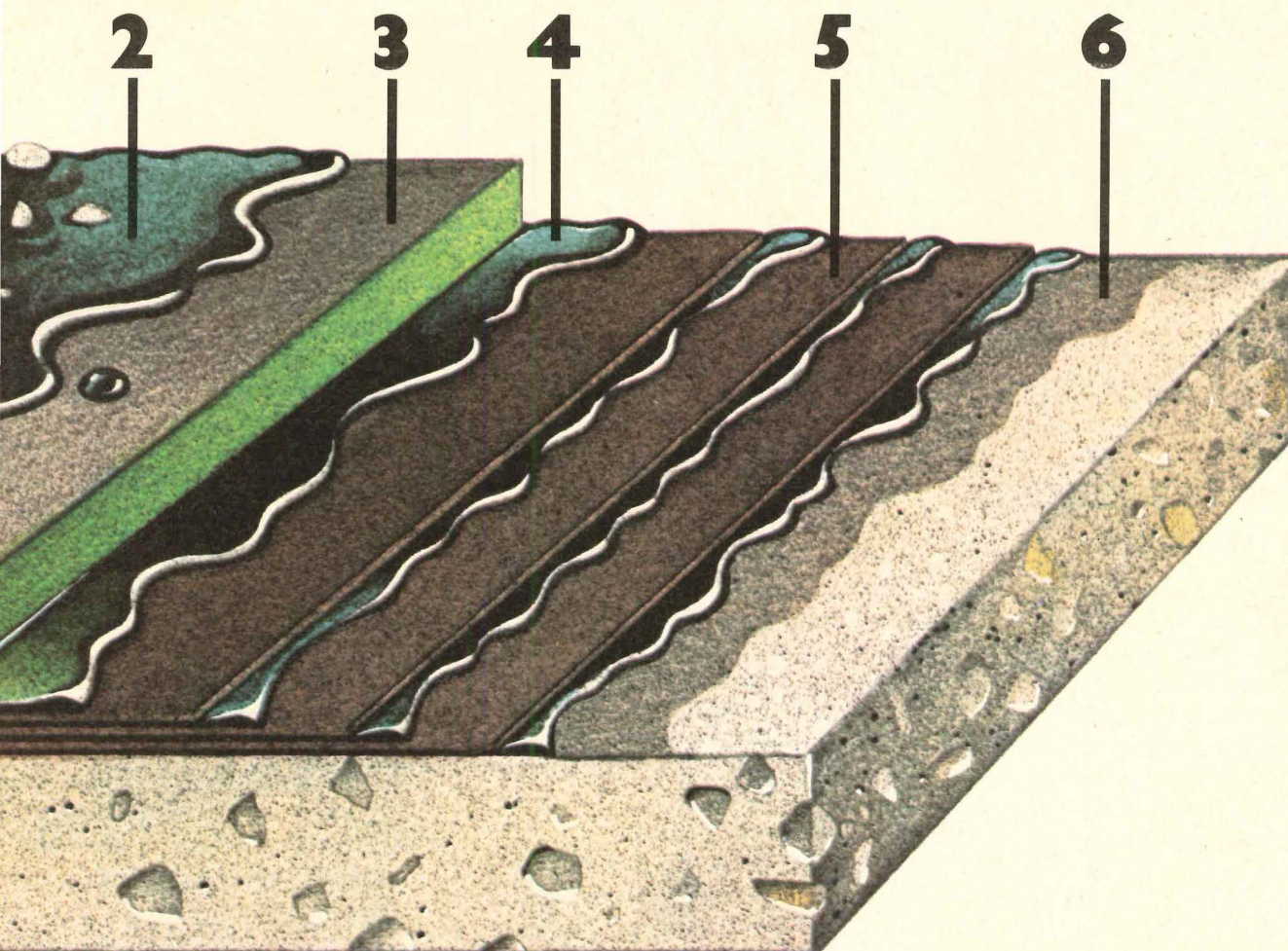


- 1** A conventional application of 300 lbs. of slag or 400 lbs. of gravel per 100 sq. ft. protects roof from flaming brands, harmful rays of the sun, and impact damage caused by hail and roof traffic.
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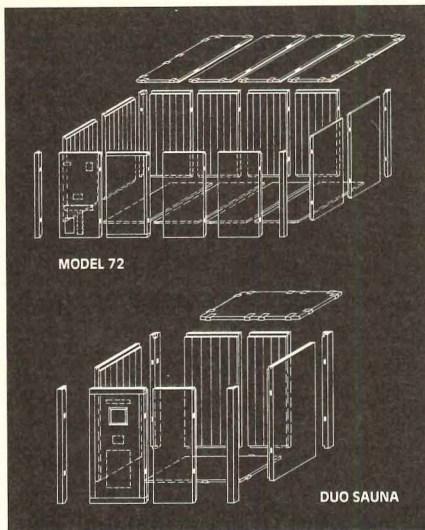
**5** Built-up roofing membrane provides the third and most important line of protection against moisture. Serves as a vapor barrier as well. Roof membrane is protected from thermal shock, punctures and blistering by the Tempchek insulation above.

**6** The Celotex Inverted Roof Assembly systems are readily applied to conventional nailable and non-nailable decks. Shown above is a concrete deck, with asphalt primer.

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News report continued from page 28

## Personalities

Charles E. Broudy of Charles E. Broudy & Associates, Architects and Planners, has been named president of the Philadelphia Chapter, AIA.

Robert L. Geddes of Geddes Brecher Qualls Cunningham, Architects, Princeton, N.J., and Dean of the School of Architecture and Urban Planning, Princeton University, delivered the key lecture at the Fourth World Congress of Engineers and Architects in Israel.

## Calendar

Through Apr. 10. "Unspeakable Furniture" exhibit, Institute of Contemporary Art, University of Pennsylvania, Philadelphia.

Through Apr. 23. "Women in American Architecture: An Historical and Contemporary Perspective," Brooklyn Museum, Brooklyn, N.Y.

Through May 3. "Mies van der Rohe: Furniture and Drawings," The Museum of Modern Art, New York City.

Apr. 2-3. "Positions in Architecture II" symposium, School of Architecture, Rhode Island School of Design, Providence.

May 9-12. Design Engineering Show, McCormick Place, Chicago, Ill.

May 23-25. Annual apartment builder/developer conference and exposition, Las Vegas Convention Center, Las Vegas, Nev.

May 27-29. Aspen Energy Forum 1977, Aspen, Colo. Theme of the conference is solar architecture.

June 5-9. American Institute of Architects annual convention, San Diego, Calif.

June 6-10. Annual meeting of the American section, International Solar Energy Society, Orlando, Fla.

June 12-17. International Design Conference in Aspen.

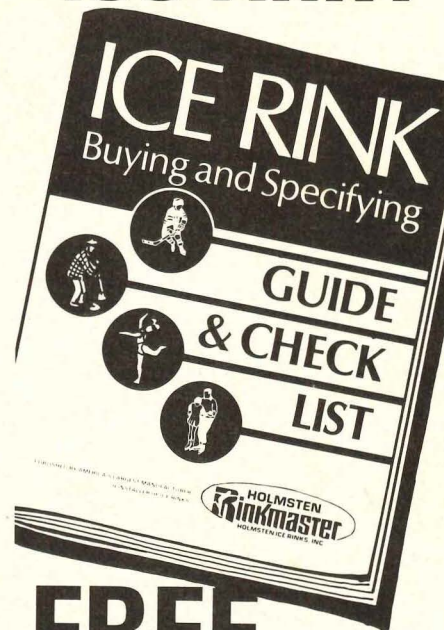
June 19-27. Eighth annual World Game Workshop, University of Pennsylvania, Philadelphia.

June 22-24. NEOCON, National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago.

June 24-26. Toward Tomorrow Fair '77, University of Massachusetts, Amherst.

July 22-25. American Society of Interior Designers conference, Houston.

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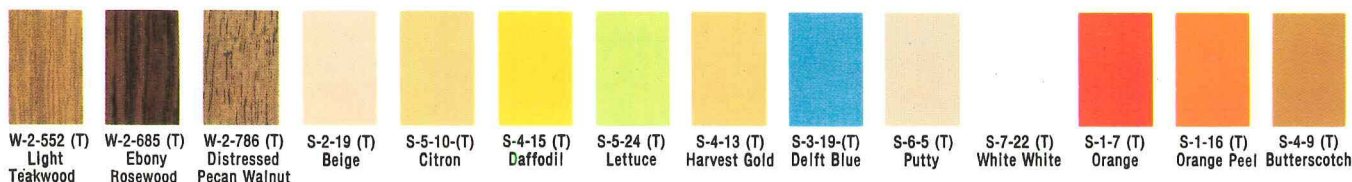
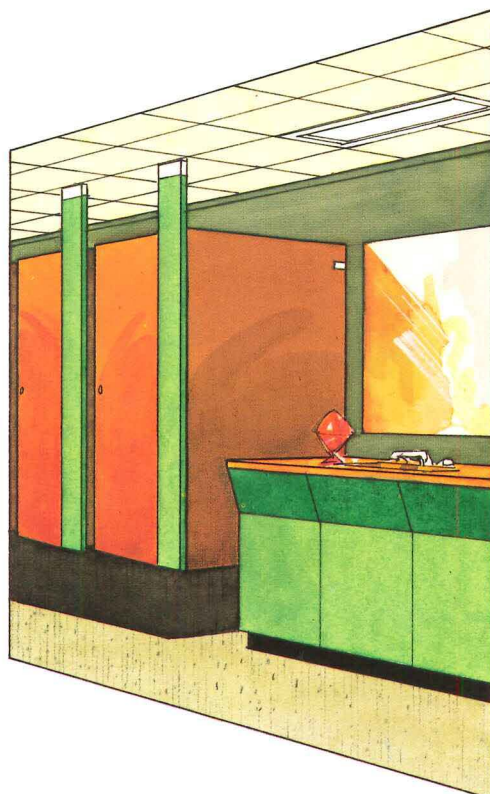
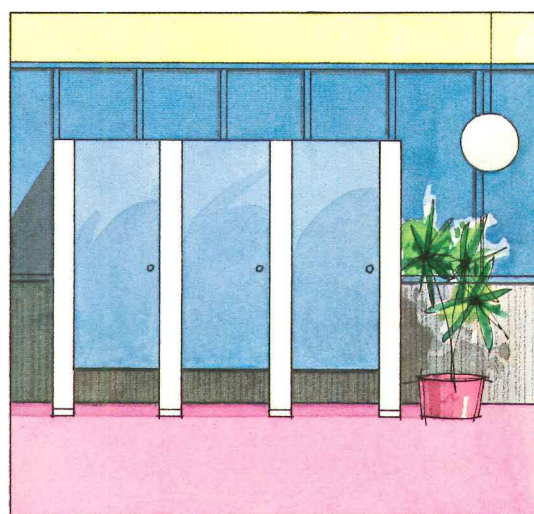
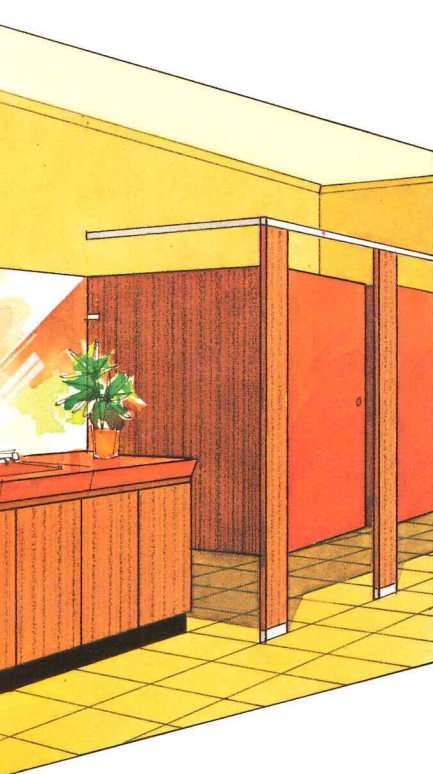
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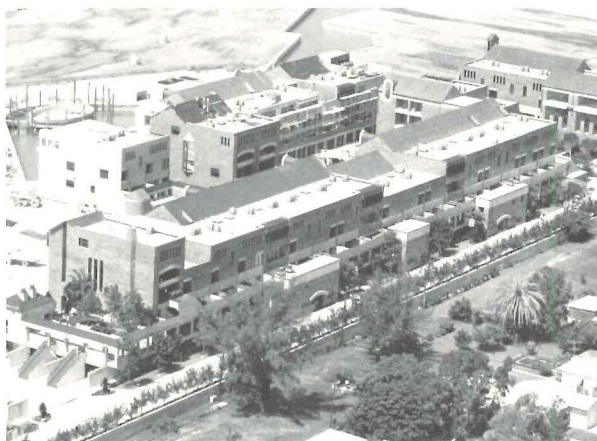
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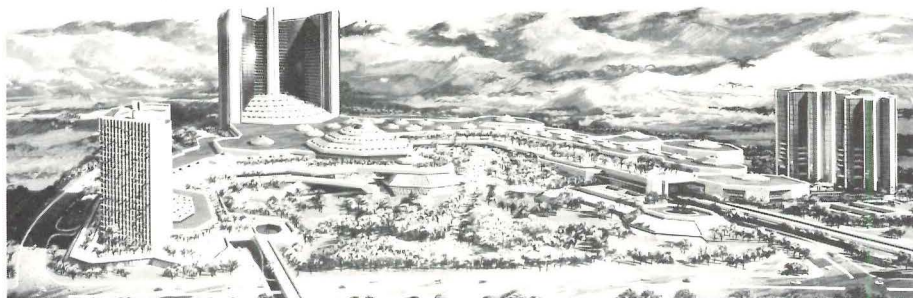




## In progress



1



2



3



4



5

**1 Luxury development in Miami**—The first 40 units of a 300-unit luxury residential community next to Biscayne Bay in Miami have opened and 100 more should be under construction by spring. Quayside, planned and designed by Miami architect Alfred Browning Parker, has "city villa" townhouses starting at \$175,000; the homes are from two to four stories, each with an elevator and underground garage. The units are brick with copper roofs. Courtyards and cloisters interrelate the built elements, which accommodate such activities as tennis, boating, bicycling, and swimming. Overall cost is \$80 million—the developer is Haft-Chasen Associates, Ltd. of Miami. Architects for the upcoming units are Reiff/Fellman Associates of Miami and Dale Naegle Associates of LaJolla, Calif.

**2 Giant shopping city planned**—ArchiSystems of Van Nuys, Calif., has received a contract to plan and design a regional shopping complex which will serve as town center for Farahzad, a new community of 100,000 people northwest of Tehran. The air-conditioned megastructure will contain 1.5 million sq ft of shopping space in four department stores, plus supporting retail shops, a 600-room luxury hotel, 850-room convention hotel, automotive center, entertainment center, 750,000 sq ft of office space in two 30-story towers, community facilities, and parking for 7000 vehicles. The client is Tehran Development Organization.

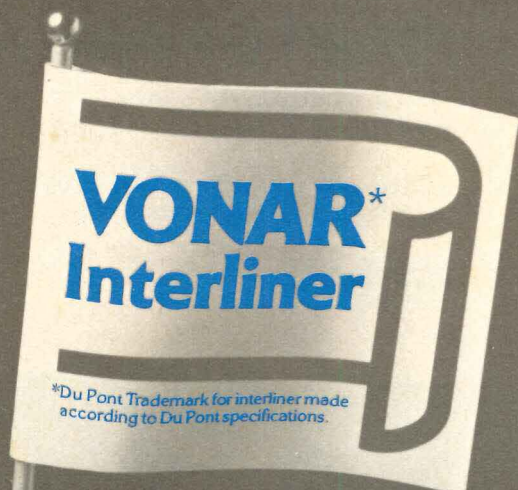
**3 Architecture building at Texas A & M**—Harwood K. Smith & Partners of Dallas is architect for the new Architecture Center at Texas A & M University, College Station, Texas. The \$8 million building, to be completed in July, is linked to two existing classroom structures by a covered pedestrian bridge. Overhangs and sun control devices on each elevation provide energy conservation. Harwood Smith (Class of 1936) designed the building to programming of Raymond Reed, dean of the College of Architecture and Environmental Design. The building is named for Ernest Langford, a former dean of the school.

**4 Space frame terminal**—A French-developed space-frame produced in the United States will be used for the 110,000-sq-ft roof of the Baltimore-Washington International Airport Terminal expansion. Unibat of America Inc. makes the frame, which the manufacturer said, is one of the first frames available at a reasonable cost, since the field welding usually required has been replaced by shop-assembled modules bolted together on site. The design group for the project is Friendship Associates of Baltimore, comprising Ewell, Bomhardt & Associates and Peterson & Brickbauer, both of Baltimore, and Howard, Needles, Tammen & Bergendoff of Alexandria, Va. The \$64.5 million project will be completed in 1978.

**5 Damavand College**—Talesin Associated Architects, is architect for the Damavand College of 1200 students (all women) north of Tehran. The site is 21 acres in the Alborz mountain range of which Mt. Damavand is the highest peak. Native brick is used as is the traditional Persian arch and vault. Glazed turquoise tile covers long arching roofs. Phase I includes an administration/classroom complex, library, and theater centered around an inner space. Sweeping stairs and ramps connect the buildings.



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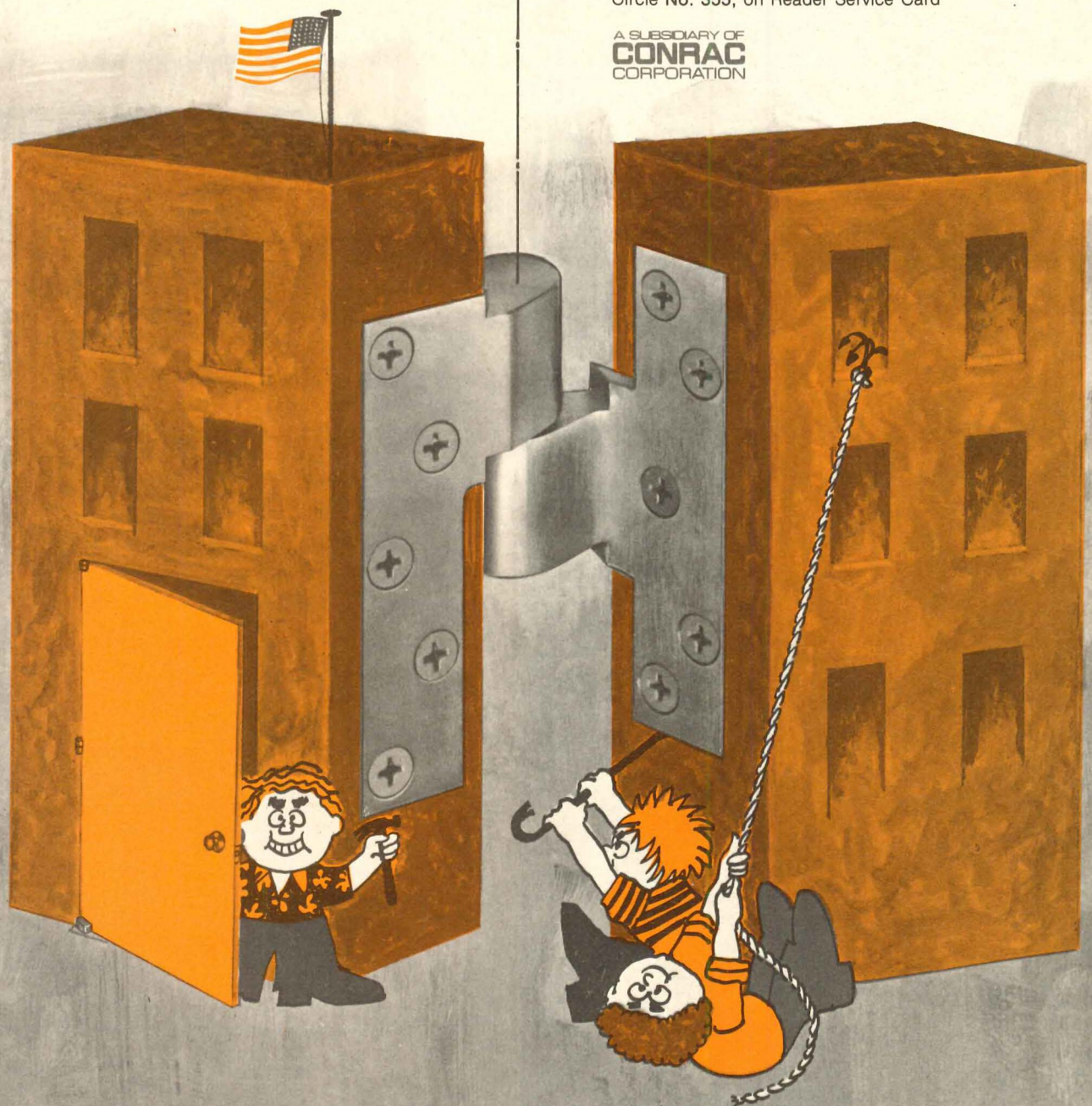
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# The woman behind the T square



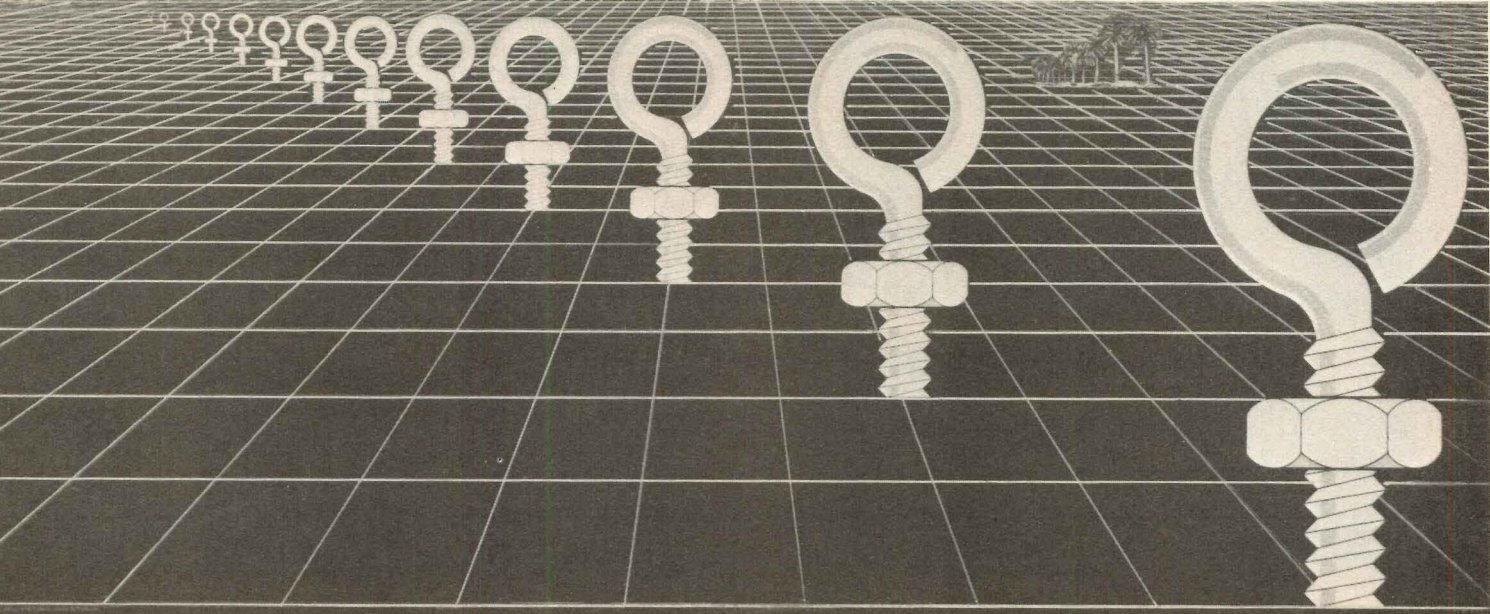
**A major exhibit at the Brooklyn Museum and the publication of a book to accompany the show bring to light the accomplishments of some less visible contributors within the field of architecture.**

Women were actively involved in the field of architecture even before its organization as a profession in the last part of the 19th Century. Of course, there haven't been *many* women, and for a number of reasons they kept a low profile throughout their careers. But strangely, not even history salvaged their work and made them visible.

Last month, a show opened that should redress that situation in a major way. The exhibit, "Women in American Architecture; An Historical and Contemporary Perspective" opened at the Brooklyn Museum, and The Whitney Library of Design is publishing a book by the same name to serve as the show's catalog. The show and book have been masterminded by architect Susana Torre and a small group of architects, historians, and writers. Under the auspices of the Architectural League of New York, they have delved into files and libraries, and have contacted women architects all over the United States to put together this unique exhibit. It is not the first time *current* work by women archi-

tects has been shown; it is the first time that it is shown in the context of a full and extensive history of women's efforts in the architectural field.

To mark the occasion, P/A reports in the following pages on some of the highlights found in the book and exhibit. Much more remains to cull out in the book; much more visual information appears in the exhibit. As Susana Torre points out in her introduction to the book, the aim of this project was to confront the question, "Why have there been no great women architects?" The reply, however, is directed to the question as it should be rephrased: "What were the circumstances that supported or hindered the full technical and expressive achievement of women in American architecture? What institutional structures were made available to women to give them the necessary preparation for achieving professional proficiency—let alone greatness? What were the alleged reasons for limiting the access by women to schools of architecture? Do these reasons change in different periods of history? When have women been commissioned to design public buildings and through what channels? What efforts have women architects exerted on their own behalf for professional advancement? What are the interrelationships between womens' roles as consumers, producers, critics, and creators of space?"



From poster for Women in Design Conference, Los Angeles, 1975, by Sheila de Bretteville.



## Women in architecture: Introduction

In exploring these complex questions, this exhibit and book begin with women's influence on the domestic domain. During the 19th Century, the home—"the woman's place"—began to undergo its revolution, not only in its administration, but also in its physical organization. Although many of the contributions by women in devising principles of scientific household management and functional physical planning did not meet with immediate widespread acceptance, it influenced house design strongly in the next century. While it can be argued that the 20th-Century Modern Movement in architecture was only understood in the U.S. as a "style," its functionalist credos had already taken hold in the house. Because the groundwork had been laid in fact, the planning principles of modernism affected standard house design most in the long run; as for style, clients still wanted Colonial or Georgian.

Because of the strong role association with the home, female architects found it most expedient (and, some feel, comfortable) to specialize in residential work. Similarly, the housing movement in the 1930s attracted many female architects and nonarchitects into its reformist camp. Nevertheless, there have been numerous exceptions that indicate women have been (and can be) responsible for large scale work. They didn't become well known for it. Instead they have stayed more or less on the fringe of the public sphere. Anonymity seemed a condition for women, given the prevailing role-models of the past: the white-gloved gentleman-architect of Stanford White's era, or the cape-wearing rugged individualist of Frank Lloyd Wright's. As the corporate architect role-model succeeded those two, anonymity functioned as a norm that ensured women would be kept even *more* anonymous. But now, new values, attitudes, and beliefs are leading to a new architecture—and probably a new role-model. Maybe it will be adopted regardless of sex. [Suzanne Stephens]



### Credits

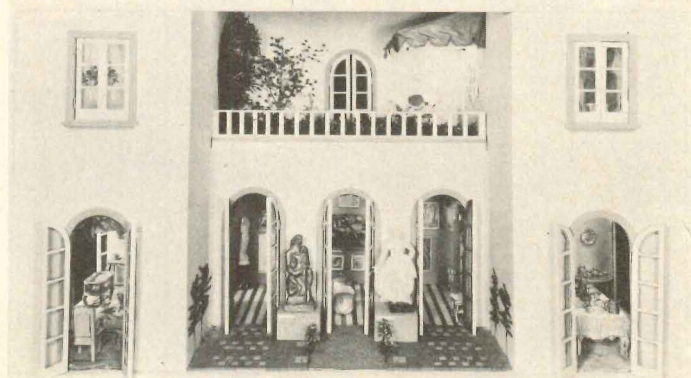
The traveling exhibition and catalog of *Women in American Architecture: An Historic and Contemporary Perspective* was organized by The Architectural League of New York through its Archive of Women in Architecture. The project was made possible with public funds from the New York State Council on the Arts and a grant from the National Endowment for the Arts, with private donations from CBS, Inc., IBM Corporation, Harry Winston, Inc., Charette Corporation, Monsanto Fund, and Mobil Oil. Book is being published by Whitney Library of Design, 1977.

**Exhibition curator and book editor:** Susana Torre (also organizer of The Archive for Women in Architecture initiated under the auspices of The Architectural League of New York).

**Exhibition designer:** Susana Torre; Cynthia Rock and Naomi Leff, design assistants; Jane McGroarty, model designer.

**Research assistants (catalog and exhibit):** Judith Paine and Naomi Leff.

Carrie Stettheimer Doll House, 1920s. Courtesy, Museum of City of N.Y.





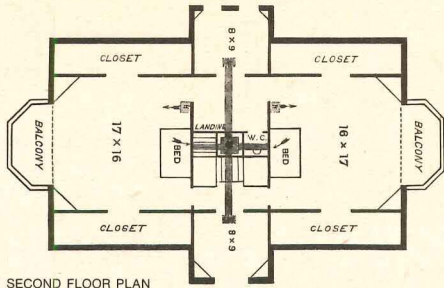
# The domestic domain

Not surprisingly, working women, some of them architects, were responsible for the design and dissemination of the most advanced thinking about the domestic environment in the 19th Century. Traditionally of course, the house as a building type has been inextricably linked with women's social/sexual roles, offering opportunities both for their enslavement, and later, their liberation.

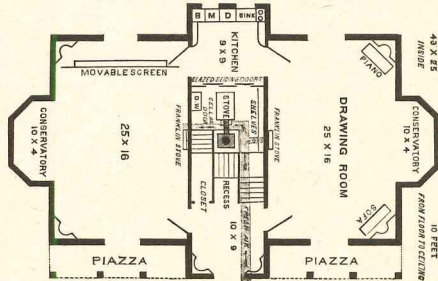
As Gwendolyn Wright observes in *Women in Architecture: An Historic and Contemporary Perspective*, women's magazines of the 19th Century generally advocated keeping women locked in the home. The idea was to make the house into a better-run machine. Like the Modern Movement's goal in the 1920s for all of architecture, it was believed that the perfectly designed and administered home would help build healthier citizens and develop a better society. Accepting the idea that a woman's place was in the home, female writers (themselves not practicing what they preached) were to influence ways of organizing the home that could be seen as early examples of pure functionalism. And while women readers of domestic bibles such as *Ladies Home Journal* sought to rationalize the home, they avoided the implications that less work would allow them to leave it. For example in the period following 1910, Christine Frederick applied the findings of Frederick Taylor for increasing the efficiency of factory operations to the home in the *Ladies Home Journal*. Scientific management of the home came first; its effect on space would soon follow.

At the turn of the century Charlotte Gilman's desire was to professionalize the domestic domain through centralization. Instead of placing separate kitchens and laundries in each house, the feminist economist proposed these services be provided through city-wide businesses with neighborhood outlets.

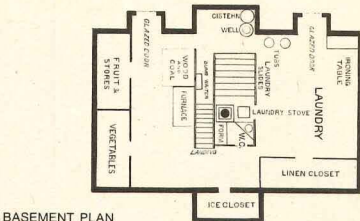
In her essay in *Women in American Architecture*, Dolores Hayden points out that Catherine Beecher's designs and theories had begun in the 19th Century to tackle the problem of functional centralized operations in the home. In Hayden's view, Beecher (1800–1878), was the most influential woman designer of the 19th Century; the ideas she developed can be seen in the work of Andrew Jackson Downing and Frank Lloyd Wright. Her book *Treatise on Domestic Economy for the Use of Young Ladies at Home and at School* published in 1841 became a classic of domestic science. Sex-typing, however, formed the basis of her doctrines. *The American Woman's Home* written with her sister Harriet Beecher Stowe in 1869 made the female supreme in the domestic environment: as the minister of the home she could instill Christian ethics in children; as a professional, she could run this domain skillfully without the need of servants. As Hayden makes clear, Catherine Beecher's ideas "elevated a system of domestic



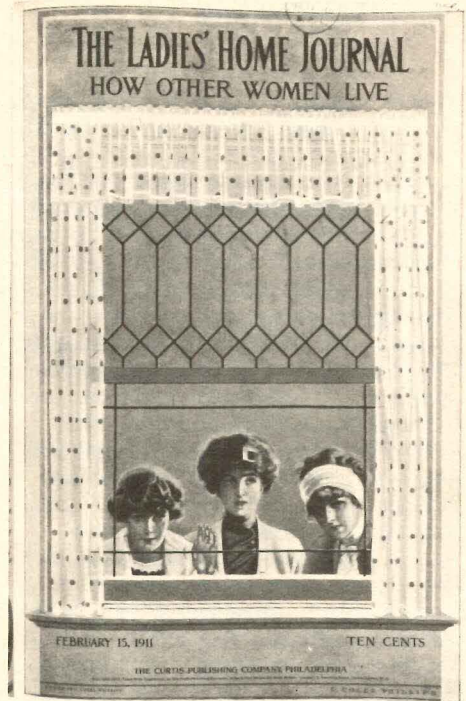
SECOND FLOOR PLAN



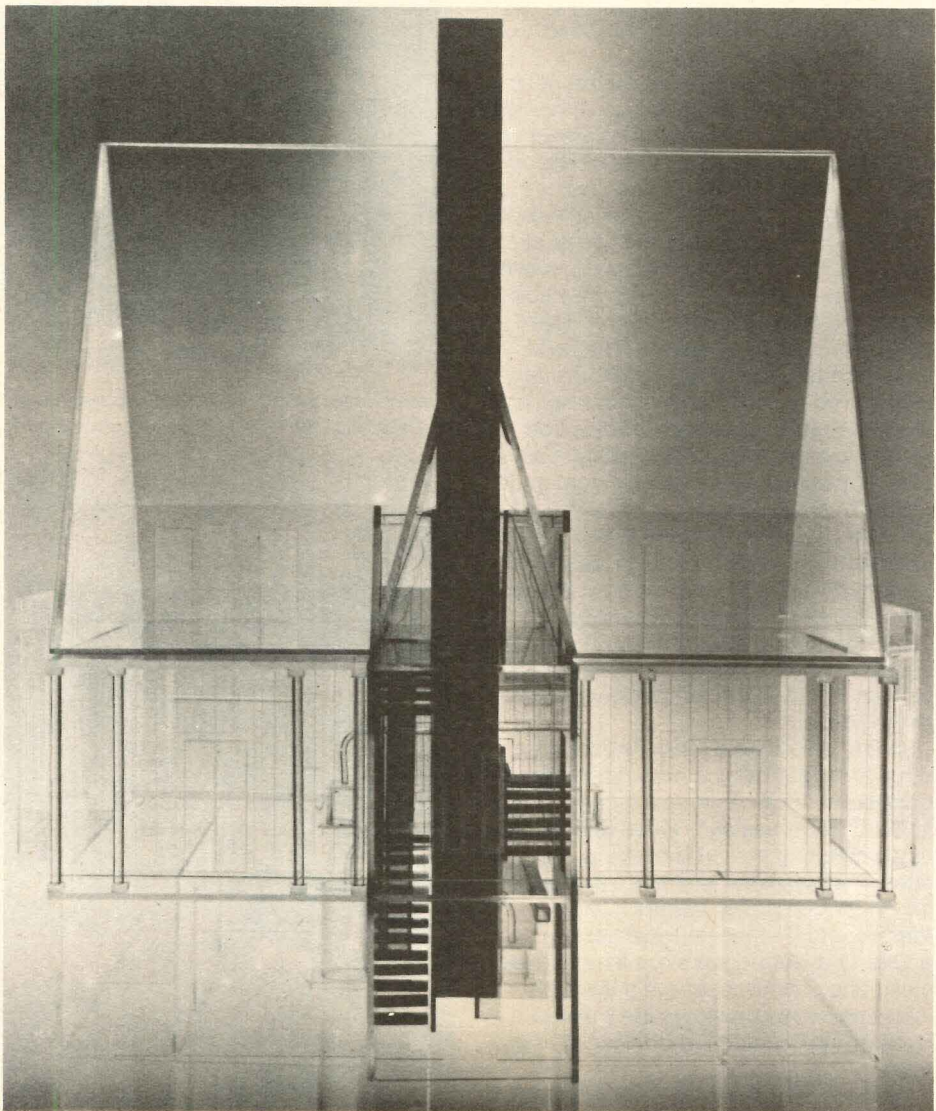
GROUND FLOOR PLAN



BASEMENT PLAN



Catherine Beecher, American Women's Home, 1869 model (below), plans (left, above). Model: Jane McGroarty. Photo: Chris Richie.





## Women in architecture

spaces, objects, and activities to a level of frenzied holiness," without actually shortening the hours of domestic work. Instead Beecher introduced the idea of *standards*.

In her 1841 treatise, the design for the house included parlors that could be made into bedrooms. By 1865, she was showing a Gothic cottage filled with the proper mechanical equipment for the minister and professional; traditional nomenclature began to disappear (dining room becomes family room); sunlight, air, and food preparation units are emphasized. By 1869 when *The American Woman's Home* was published, Beecher had fully developed her house plan; in the center of the house is located a mechanical core of bathrooms, heating and ventilating equipment; the kitchen, extending into this central core, has all the streamlined planning of kitchens years later. Movable screens permit flexible interior partitioning; furniture assumes a new double role—for example, hassocks hide storage cabinets.

Beecher proposed alternative methods of collective household organization also: for example, a neighborhood of a dozen families could share common laundry, bakery, and stable facilities. At the bottom of this proposal was the recognition that the drudgeries of domestic life should not be carried out in isolation.

Other efforts toward cooperative housekeeping in America cropped up in the 19th Century without instigation from Beecher. One of the most unusual is the Woman's Commonwealth in Belton, Tex., formed in 1866. There, a group of 30 women moved into a communal house in the center of town to which they added extensions over the next two decades. In 1886, they converted the house into the Central Hotel, quite a successful operation. The building's façades were simple, and the interiors allowed flexibility and multiple use of spaces. Principles of open plan can be found here (each room opened onto an adjoining space or an outdoor area) and residents could easily interact during work and play. Later Alice Austin, a self-trained architect and utopian socialist, designed kitchenless patio houses for the Llano del Rio community built near Los Angeles in 1914. Her cooperative housing ideas also called for underground tunnels for food delivery carts, and small garages in front of the houses.

In the 1920s Greta Gray introduced other architectural and urban planning considerations to American homemakers in her book *House and Home*. She advocated planning and programming standards that would be tailored to the particular kinds of occupant—elderly, large families, etc.—not the normal healthy adults. Gray urged more garden-city-type clustering of houses, to avoid the problems implicit in continuing the isolated family living in detached dwellings in suburbia.

Another housekeeping revolutionary, Li-

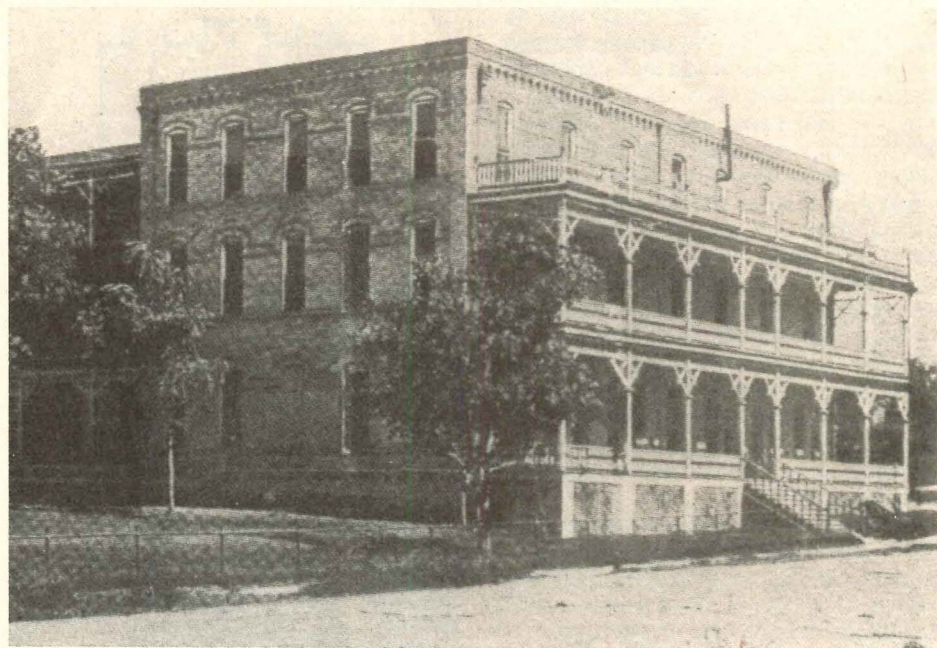
lian Moller Gilbreth, was an industrial engineer who published her ideas in the pages of *Architectural Record* in the 1930s.

Along with her partner-husband Frank, Gilbreth conducted efficiency studies based on the model of industrial research laboratories for such companies as Brooklyn Gas.

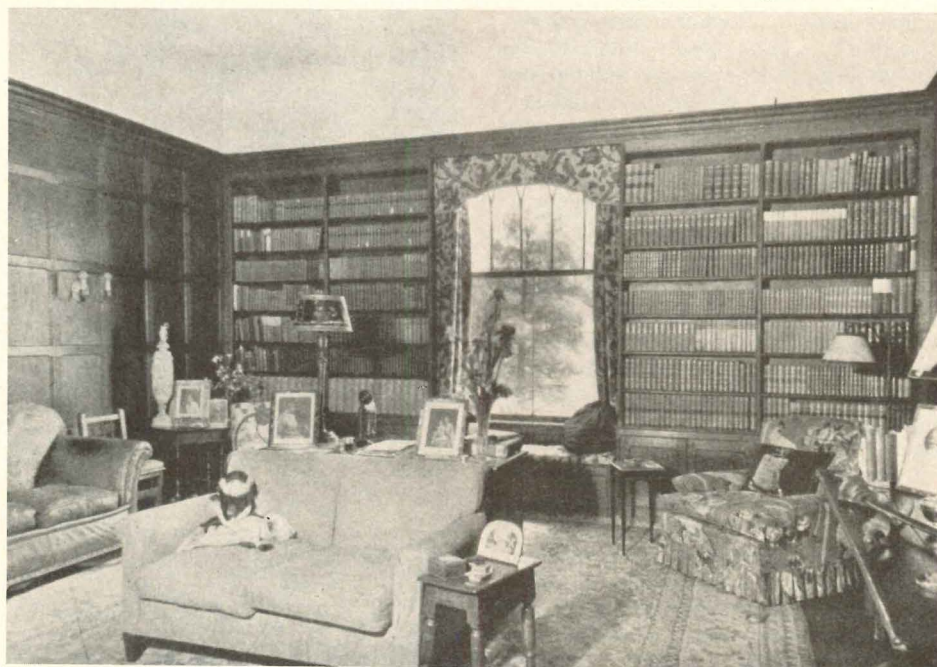
Another major influence on the modern housewife was of course Emily Post. Despite Post's very clearcut advocacy of a division of places in the house based on sexual stereotypes, she emphasized the symbolic notions of house. Homes connoted security, solidity, peace, and comfort, as her publication for "A Delightful Man's Room" in her very popular 1930 treatise on *The Personality of a House* so well illustrates.



Lillian Moller Gilbreth, demonstration kitchen, Brooklyn Gas Co., *Architectural Record*, 1934.



Central Hotel, Belton, Tex., 1891 (above), courtesy Gwendolyn Wright. Emily Post selection (below), "A Delightful Man's Room" © 1930. Architect: Bruce Price. Courtesy, Funk & Wagnall.





# The new professional: Historic beginnings

With limited access to professional training or job opportunities, a number of women in the late 19th and early 20th Centuries hoped to expand their influence from the home to the larger public environment. To do so, they became architects. Between the Civil War and 1900, 39 women graduated from architectural schools; a number of others worked as apprentices in architectural offices.

As Judith Paine notes in *Women in American Architecture* most of their achievements are unknown, rather than forgotten. Usually these women remained anonymous, working alone or in small offices. Their buildings were rather small in scale and executed for private instead of public clients. There was of course the social stigma of the age to contend with too: women professionals were regarded as peculiar for leaving the home, and entering the public (male) domain.

Many women specialized in residential design, not only because of the traditional sex role affinities, but also because of the limited types of commissions available to lesser known practitioners.

Nonprofessionally trained designers such as **Harriet Irwin** (1828–1897) began early to formulate design solutions that reflected the interest in an improved domestic environment in architectural terms. In 1869 Irwin took a patent for a hexagonal house that was built in Charlotte, N.C. The house, intended to economize on space, materials, and heat, included one central chimney. Most of the rooms were lozenge-shaped rather than rectangular to improve lighting and ventilation conditions.

Educational opportunities for professional training of women remained difficult throughout the late 19th Century. Although MIT became the recognized architecture school in the country in 1868, the first woman identified as graduating from an architecture school was **Margaret Hicks** (1858–1883) who graduated in 1880 from Cornell University. She also had a student project, the *Workman's Cottage*, published in 1878, the first publication of a woman architect's work.

In 1910, half of the existing architecture departments still would not allow women to enroll. On one hand, New York's Cooper Union for the Advancement of Science and Art permitted women to take architectural design and engineering courses from its founding in 1859; on the other, Columbia University was still excluding women 50 years later due to the lack of residential accommodations. Some women, if they were wealthy enough, overcame these obstacles. **Theodate Pope Riddle** (1868–1946), refused admission to architectural classes at Princeton in the 1890s, hired its faculty members to teach her privately. At MIT, women fared better. In 1890 two female students had



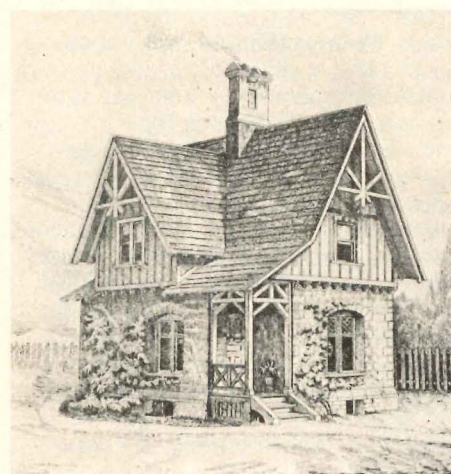
Sophia Hayden: The Women's Building, Columbian Exposition, Chicago, 1893.

completed a special two-year course in architecture. And **Sophia Hayden** (1869–1953) became the first woman to graduate from MIT's full four-year program in the same year.

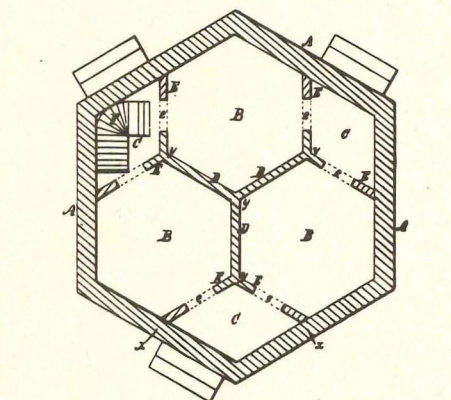
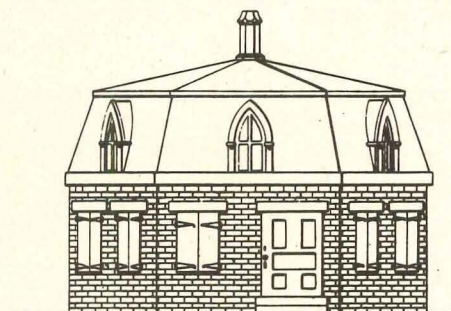
She also won the coveted competition to design the Women's Building at the Columbia Exposition of 1893 when she was only 22. As is well known by now, the Exposition commemorated the 400th anniversary of the discovery of America, with a Beaux-Arts style of architecture borrowed from Europe, rather than the less palatable but more modern American architecture of the Chicago School. Yet if the selection of the architecture for the fair was not innovative, the inclusion of a Woman's Building was. Feminist Susan B. Anthony had fought for and won a concession from U.S. Congress that a pavilion be permitted, with a Board of Lady Managers planning the exhibit hall. Exhibits focused on women's progress in professional fields, handicrafts and painting, sculpture, drawing, and photography.

The program called for the design of the building to be "a simple light-colored classic type." Hayden's Italian Renaissance design included a huge exhibit hall on the main floor, lit by skylight and clerestory windows. But despite encouragement from Daniel Burnham and Richard Morris Hunt, the pressures of supervising construction and dealing with criticism resulted in Hayden's having a nervous breakdown. Soon afterward she married artist William Bennett and retired. Her ill health was seized upon by the press as the perfect reason why women should not be engaged in such wearing professions. One paper considered the "work of superintending too laborious and inconvenient and would . . . involve a change in fashion" for women.

Nevertheless, some females remained undaunted by their cumbersome clothes. In Buffalo, **Louise Bethune** (1856–1913) apprenticed in the office of Richard Waite during the late 1870s then opened her own office at age 25. She had already been practicing for a decade (with her partner whom she eventually married, R. A. Bethune) when the Women's Build-



Margaret Hicks: The Workman's Cottage, 1878.



Harriet Irwin: Hexagonal Building, Charlotte, N.C. © D. Cole, *From Tipi to Skyscraper* in press 1973. Reprinted by permission.



ing Competition was announced for the Chicago Fair. At that time she was the most recognized practicing female architect in the states, and had already been made the first woman Fellow of the AIA. Nevertheless, she wouldn't enter the competition because she did not consider the honorarium proportionate to those given male architects for other fair buildings.

The work Bethune produced included apartment buildings, 18 schools in New York state, industrial plants, and stores. Her Denton Cottier & Daniels music store was one of the first structures in the U.S. with a steel frame and poured concrete slabs. Bethune's Hotel Lafayette, a French Renaissance design of 1904, still stands in downtown Buffalo.

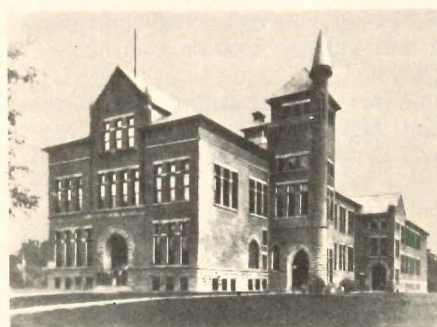
While, as Judy Paine points out in *Women*, Bethune disdained private home design, **Minerva Nichols** (1861–1948) felt that this kind of specialization was a way of guaranteeing success. In 1888 she took over the office of Frederick Thorn, Jr., with whom she had apprenticed in Philadelphia, and proceeded to build a substantial practice in residential design in Philadelphia and its suburbs. She also executed the New-Century Club for Women in Philadelphia, recently torn down, and another one in Wilmington, which still stands. Despite specializing in one area, Nichols designed two factories in Philadelphia for a spaghetti manufacturer and the Browne and Nichols School in Cambridge, Mass. Incidentally, Nichols publicly defended Sophia Hayden's breakdown in *American Architect and Building News* because of its unusual circumstances and urged that this illness not dissuade other women from turning to architectural careers.

As can be seen from some of these commissions, the proliferation of Women's Clubs at the beginning of the century was to be of some significance for women architects. Many of the clubs, including the YWCA, deliberately sought female architects for its building programs.

Women in groups and singly were to function as important clients for launching the careers of some important female architects. According to Judith Paine, the female head of Westover School in Connecticut gave Theodate Pope Riddle her first major independent commission with the design of the school. When it was built in Middlebury, Conn. in 1909, Cass Gilbert called it "the most beautifully planned and designed . . . girls' school in the country." Riddle had already designed other residences including Hill-stead, a family home she executed in 1901 with Stanford White. Her best-known work, however, is Avon Old Farms (also 1909), a progressive school in Conn. offering courses in manual labor. In its construction, Theodate Pope Riddle insisted on 16th-Century English methods and tools, as a reflection of her interest in England's craftsman movement and its use of natural materials. The brownstone buildings and slate roofs



Louise Bethune: Hotel Lafayette, Buffalo, N.Y., 1904. Photo: Cynthia Peterson.



Louise Bethune: Lockport Union H. S., Lockport, N.Y., 1885. Courtesy Buffalo and Erie County Historical Society.



Minerva Nichols: New Century Club, Wilmington, Del., 1893. Courtesy Historical Society of Del.

created an architectural entity that is still exceptional today.

Phoebe Hearst proved to be an important client for **Julia Morgan** (1872–1957). Although Morgan designed somewhere between 800 and 1000 buildings on the West Coast during her career, her house for William Randolph Hearst, San Simeon, is the best remembered.

In *Women in American Architecture*, Sara Boutelle writes that Morgan graduated from the University of California with a civil engineering degree in 1894. By that time she had met Bernard Maybeck with whom she apprenticed after graduation. Morgan then decided to attend the Ecole des Beaux-Arts in Paris, even though women were not admitted to the school. She became the first woman in the world to study there, and the recipient of numerous awards and honors before receiving her certificate in 1902. Back in California, Morgan obtained her license and joined the office of John Galen Howard, who was preparing the master plan for the Berkeley campus. In 1904 she started her own practice, which included the library at Mills College in Oakland (1906) and the Fairmont Hotel in San Francisco. Phoebe Hearst initially hired Morgan for a house addition but the work led to other

commissions (plus introductions to other clients) and finally, San Simeon in 1919.

Morgan also received a number of commissions from women's organizations. One, Asilomar, the conference center of 1913 for the YWCA came through Phoebe Hearst. But this was not the end. Morgan designed the Oakland YWCA in 1915, plus a number of other Y's throughout the years. The Women's Club movement brought her some commissions, including the Berkeley Women's City Club in 1929, which she executed in reinforced concrete construction.

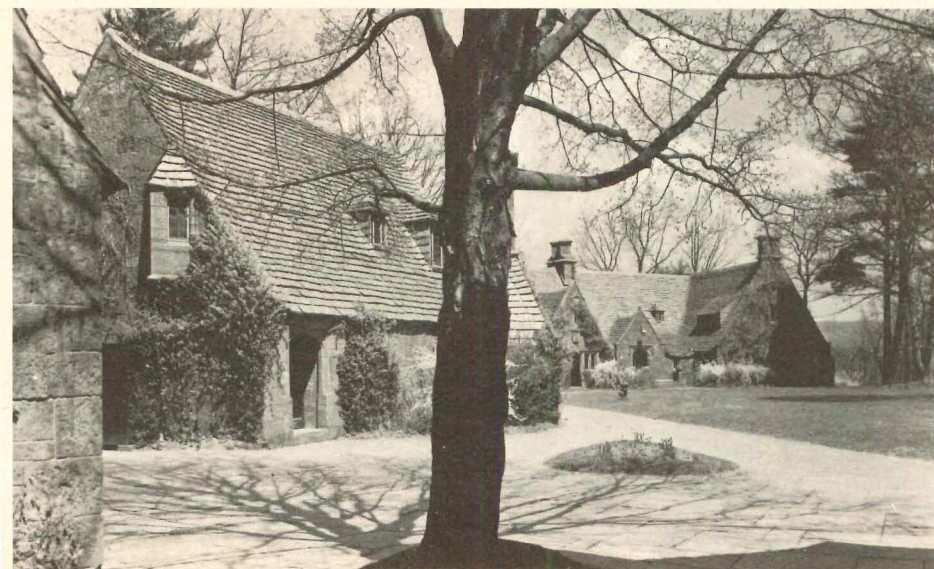
The use of only reinforced concrete was still not in common practice in the states; Morgan applied it in response to earthquake hazards in this and other commissions, including San Simeon. However, the Craftsman movement also intrigued her as Sara Boutelle points out: St. John's Presbyterian Church in Berkeley (1908–1910), with its exposed truss construction, is an outstanding example.

Although her styles are wildly varied, indicating a rampantly eclectic approach to architecture, the attention to detail, skillful use of understated ornament, and continuously flowing spaces attest to Julia Morgan's talents. She insisted on autonomy in the office (although she did have six

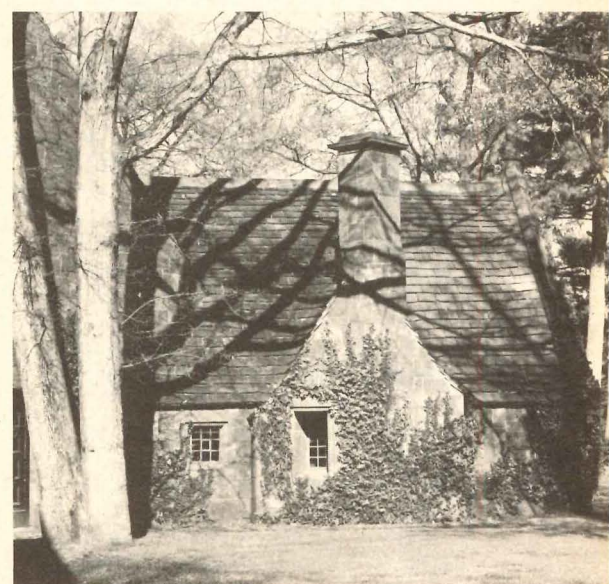
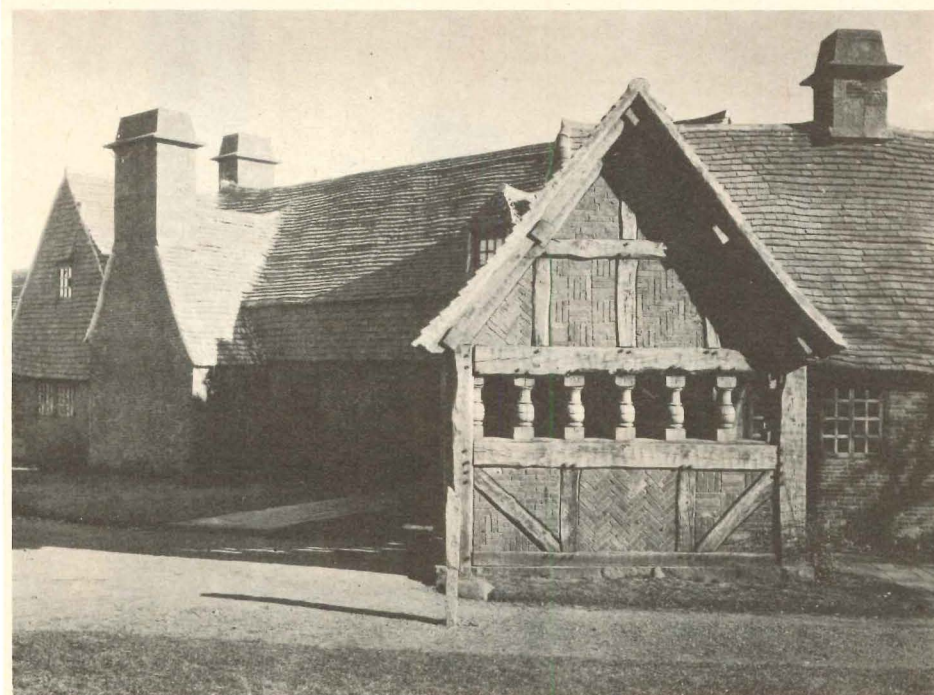
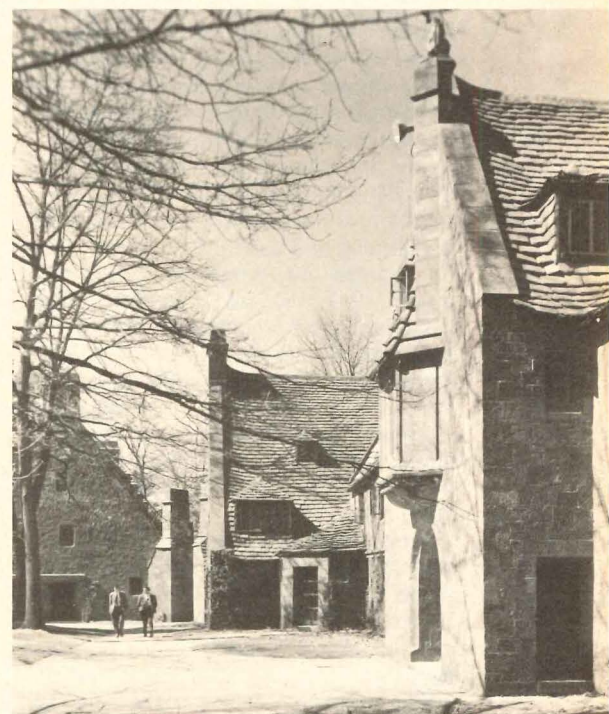




Theodate Pope Riddle: Westover School, Middlebury, Conn., 1909. Photos: courtesy, Westover School.



Theodate Pope Riddle: Avon Old Farms School, Avon, Conn., 1909,  
House of Aid to Provost (below). Photos (above and right): Samuel Chamberlain.





## Women in architecture

women out of a staff of 14 in her employ in 1927) and wanted complete anonymity with regard to publicity. Morgan not only refused to give interviews or have her work published, when she retired in 1952 she destroyed all her files.

One female *client* who became an architect also lived in California. An art student at Berkeley, **Hazel Wood Waterman** (1865–1948) had hired Irving Gill to design the Waterman family home in 1901. When she was widowed two years later, Waterman took a correspondence course in drafting and was soon working for Gill. According to Judith Paine in *Women*, Waterman eventually began attracting commissions on her own, such as three houses for Alice Lee in San Diego, although still with Gill's supervision. Generally she adhered to the Gill style, as shown by the Administration Building for the Children's Home in San Diego, California of 1912–1925.

Another California architect, **Lillian Rice** (1888–1938) also studied at Berkeley, and later worked in the office of Hazel Waterman. Like Waterman, she was attracted to the reinforced-concrete geometric architecture seen in the work of Irving Gill. Later with the firm of Reuqa & Jackson, she was given the responsibility of planning and supervising Rancho Santa Fe, a garden-city-type town on a 14-mile tract northeast of San Diego. Here, Rice clustered commercial school and residential areas along a main street, and using adobe wall construction, built many public buildings and residences. In *Women* Judith Paine points out that Rice also applied wood construction quite sensitively in her work, as shown by her Robinson House of 1929 in La Jolla.

While it was very common to work in partnerships with males, and rare to work alone, it was even more rare to form partnerships with other females. Some women did. According to Judith Paine, **Ida Annah Ryan**, (1873–1950) an MIT graduate in 1905, formed an office with **Florence Luskcomb** (born 1887) in 1908 in Waltham, Mass. While this partnership lasted only until the outbreak of World War I, another Boston firm of women architects lasted from 1913 to 1936. This firm was formed by **Lois Howe** (1864–1964) who, as an MIT graduate under the two-year program, had been a runner-up for the Chicago Women's Building competition. Howe specialized in single-family houses in the shingle style and Colonial Revival style, and her penchant for them eventually led her to publish *Details of Old New England Houses* in 1913. She eventually made two employees partners of her firm, **Eleanor Manning** (1884–1973) and **Mary Almy** (1883–1968). In the 1920s the firm entered the housing field; for example, Manning was responsible for the design of the first low-income housing in Boston—Old Harbor Village.

Another female partnership was that of Schenck & Mead, which was formed in



Julia Morgan: YWCA, Berkeley, 1919 (above); Mills College Library, 1906 (right, top), and Office of Julia Morgan, 1920 (right), showing Dorothy Wurmser, middle. Photos: College of Environmental Design, U.C. Berkeley (above); Robert John Wright, (top, right), courtesy Dorothy Wurmser Coblentz (right).



Julia Morgan: St. John Presbyterian Church, Berkeley, 1909 (above), and James Lombard House, Piedmont, Calif., 1915 (below). Photos: courtesy, U.C. Berkeley (above), James Edelen (below).





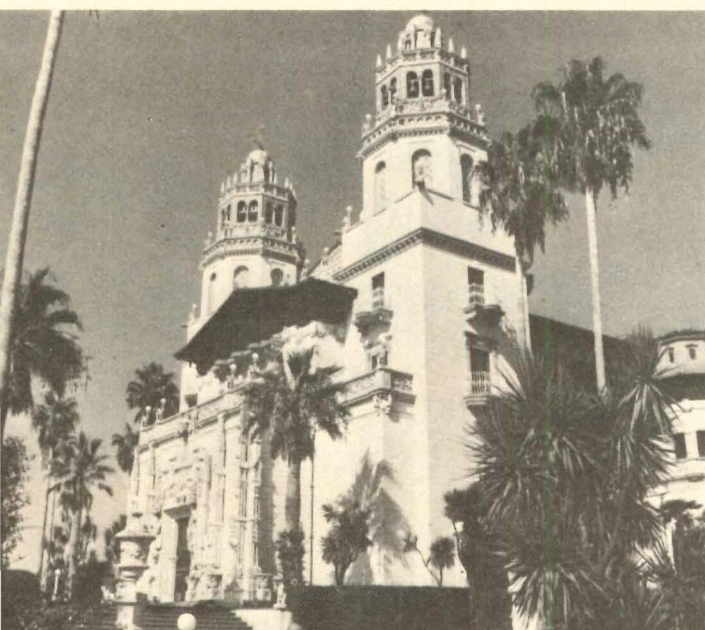


James Edelen



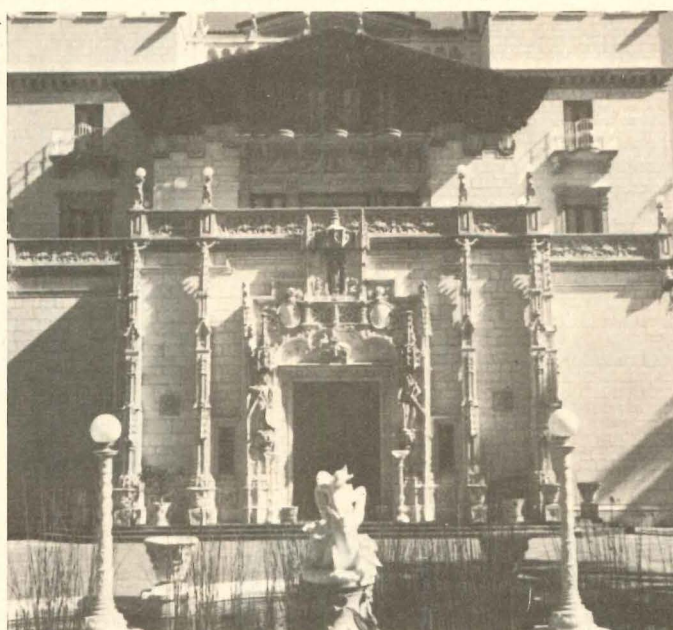
GAF Corp.

Julia Morgan: Berkeley City Club, 1928 (top, left); Hearst Castle, San Simeon, 1920-37 (below); sitting room, Hearst Castle (top, right).



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1912 in New York. While the partnership ended with **Anna Schenck's** death (birth unknown; died 1915) **Marcia Mead** (1879-1967) continued to practice actively. She had begun her career by apprenticing in architects' offices, but eventually went back to school, entering Columbia's School of Architecture at 32, where she later taught. Mead also designed public housing, YWCAs in New York and New Jersey, and wrote the book *Homes of Character*.

**Marion Mahoney Griffin** (1871-1961) illustrates an unsettling career pattern of the female architect who marries her architect/partner. As Susan Fondiler Berkon writes, after receiving her B.S. from MIT in 1894, Mahoney became the first woman licensed to practice architecture in Illinois, her home state. She began working for Frank Lloyd Wright soon thereafter in the Oak Park studio. While there she received an independent commission, the All Souls Unitarian Church in Evanston, completed in 1903, demolished in 1960. Unfortunately, her original avant-garde design had

to be relinquished for a Gothic one more pleasing to the clients.

Her collaboration with Hermann von Holst, who took over Wright's studio when he went to Europe, posed problems. In spite of the agreement with Holst that she would have "full authority and final decisions on all matters of design and construction," Holst was often listed on drawings as the architect, Mahoney as the associate. In his book *The Prairie School*, H. Allen Brooks points to The Adolph Mueller house in Decatur, Ill., of 1910 as the one house that exemplified Mahoney's own style, and which he states "may safely be considered the most complete authentic house ever built to her designs." Typical of Mahoney's work, Brooks proceeds, are the "long horizontals combined with tight narrow verticals, high and heavy foundations, crisp gable roofs, angular details in the interior, plus the low tentlike ceiling." The fact that the plan is not bilaterally symmetrical and faintly suggests a pinwheel form is another factor that identifies it as Mahoney's work.

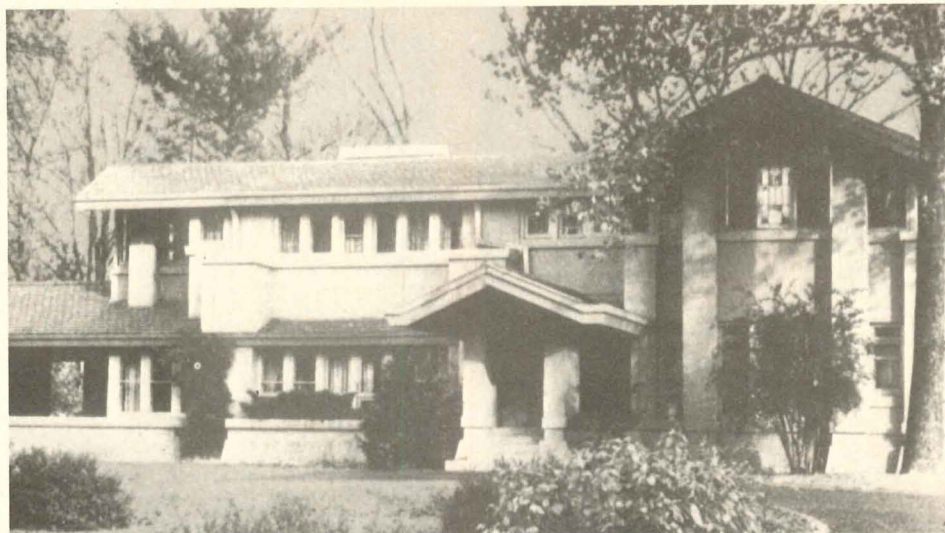
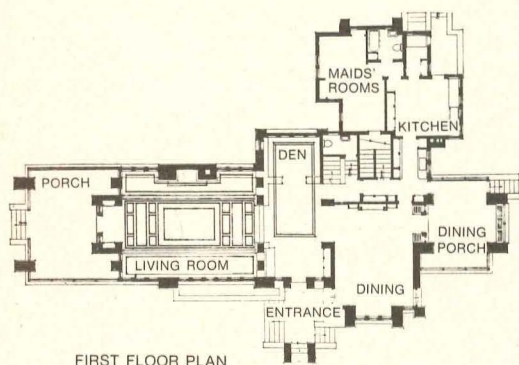


Casa del Sol, Hearst Castle, Photo: GAF Corp.

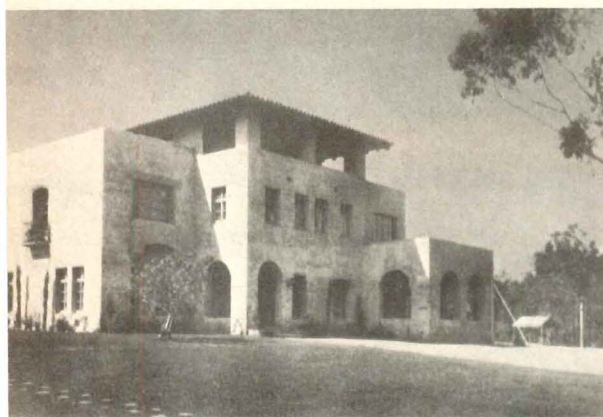
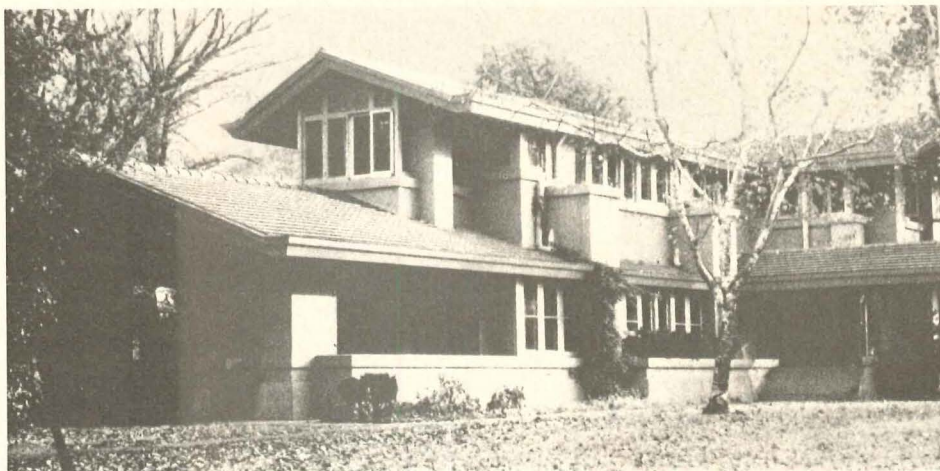


## Women in architecture

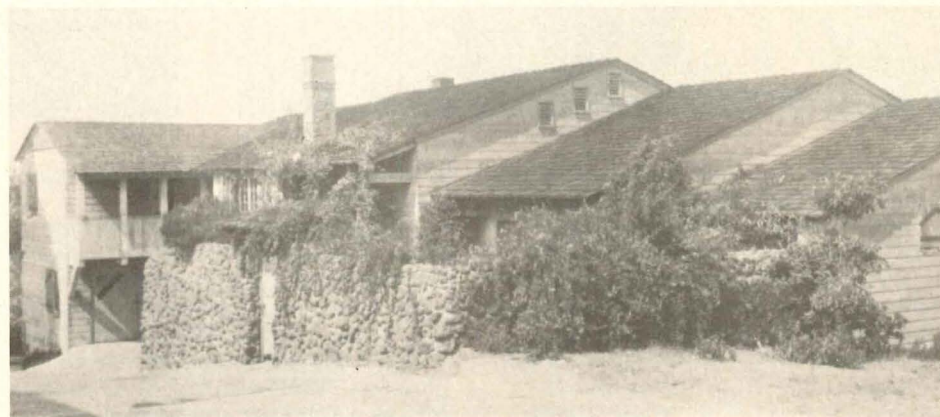
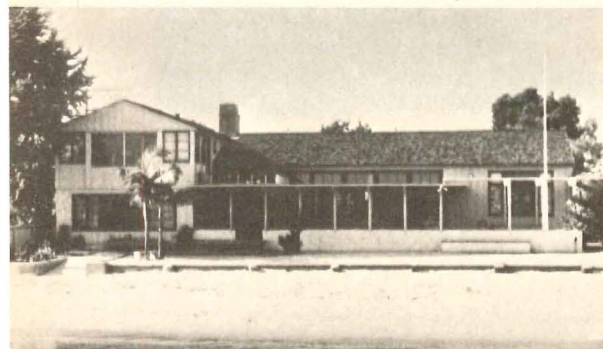
When Mahoney married Walter Burley Griffin, also formerly associated with Frank Lloyd Wright, she allied her career inseparably with his. Griffin won the competition for the design of Canberra, Australia, and they left for that country to live for a number of years. When she returned after Griffin's death in 1937, she produced some interesting work, as shown by two community plans. They were executed in 1942 and 1943 for Mrs. Lola Lloyd, an international pacifist and cofounder (with Jane Addams) of the Women's International League for Peace and Freedom. But her career never reflected the potential she had shown in her early years.



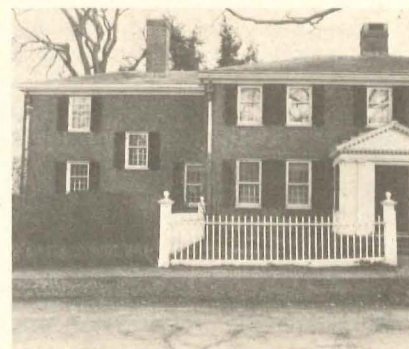
Marion Mahoney: Adolph Mueller House, 1910, entrance elevation (above) and side view (below). Photos: H. Allen Brooks, courtesy U. of Toronto Press.



Hazel Waterman: Administration Building, Children's Home, San Diego, 1912. Photo: San Diego Hist. Society, Junipero Serra Museum.



Lillian Rice: Robinson House (above), La Jolla, Calif., 1929, ZLAC Rowing Club (below, left), Mission Bay, Calif., 1932. Photos: San Diego Hist. Society (above), Judith Paine (below, left), Howe, Manning & Almy, house (below, center); Grey Gardens West (below), Cambridge, Mass., 192





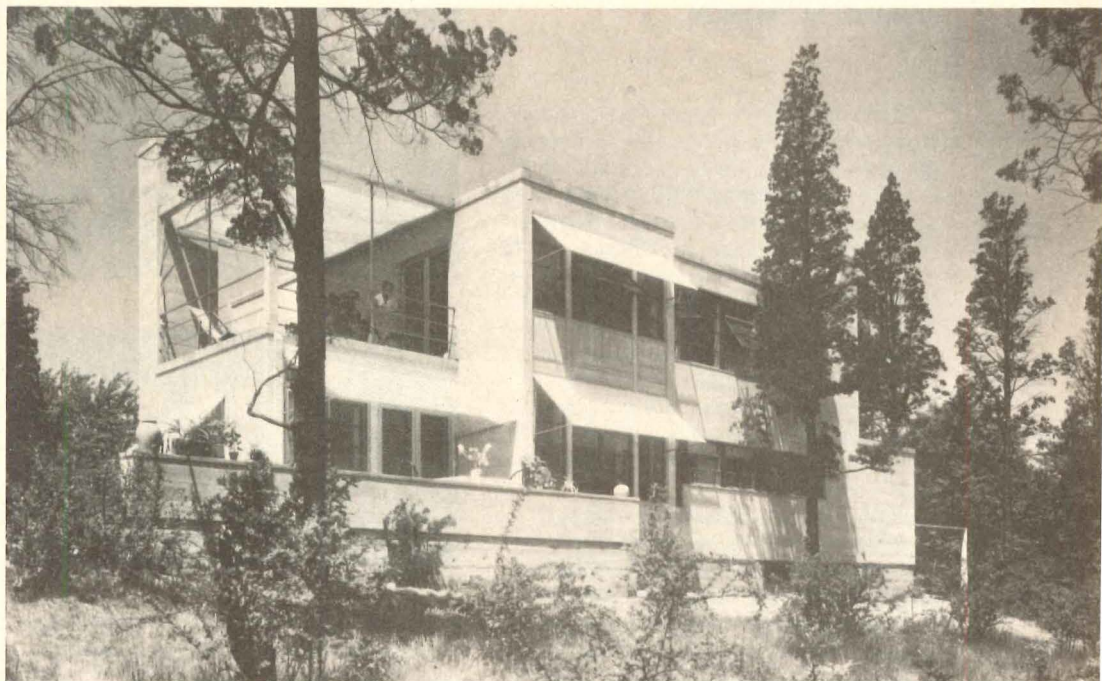
# The new professional: Coming of age

Of the women entering architectural practice in the 1920s and 1930s who were to embrace modern architecture's principles and goals, **Eleanor Raymond** (born 1887) is one of the most exemplary. In 1917 she enrolled in the Cambridge School of Architecture and Landscape Architecture, an innovative school open only to women. (For a detailed discussion of its history, see Doris Coles' book *From Tipi to Skyscraper* and Mary Otis Stevens' essay in *Women in American Architecture*.) There Raymond met the founder of the school, Henry Frost, with whom she became associated in 1919, a partnership that lasted until she opened her own office in 1928.

As Doris Cole also writes in *Women*, Eleanor Raymond was as influenced by social worker Jane Addams as by her Beaux-Arts type of training at the Cambridge School. She pursued historic and contemporary design principles with interest, and published a book *Early Domestic Architecture of Pennsylvania* in 1931. Cole points to the simplicity and harmony, the integration of nature with man-made artifact that underlies much of Raymond's architecture, such as her vanguard Solar House of 1948. Raymond's exploration of new technologies applied to architecture particularly stands out. For example, in 1940 she built an all-plywood house in Dover, Mass., built on a 4'x8' module, with a second floor balcony suspended by rods from the roof. In 1944 she designed a house in Dover that featured masonite inside and out for walls, ceilings, floors, kitchen cupboards, and counter tops. As shown by a house in Belmont, Mass. of 1931 and her first commission, the Cleaves House of 1919, in the turbulent years of American architecture Raymond shifted from the classical to the modern with elegance, simplicity, and careful attention to the creation of place.

Technical innovation and social reform were both concerns of **Elizabeth Coit** (born 1892). Although she graduated in architecture from MIT, the housing studies she conducted for the AIA 1938–1940 soon marked her as a housing expert. At this early date she investigated housing needs from the users' viewpoint in order to make recommendations regarding their lifestyles and the type of design needed to respond to it. The nature of her contributions led to Coit's joining the Federal Public Housing Authority (1942–1947). Later she became the Principal Project Planner for the New York Housing Authority (1948–1962).

As Mary Otis Stevens writes in her essay in *Women*, Coit often urged that the architects live in the project apartments they designed in order to understand how the lower income tenants fit into "a somewhat abbreviated edition of the large-scale home." Coit also advocated adaptability



E. Raymond: sculptor's studio, Dover, Mass., 1931.



E. Raymond: solar house, Dover, Mass., 1948; Raymond (r.) and Dr. Maria Telkes, solar expert.

and flexibility of design to make spaces in small apartments more usable all the time. Despite her research, Coit kept up an architectural practice too, which included office interiors in the early years and later house design.

Of the women who came to prominence in the 1930s and 1940s, a number were married to their partners. And as Doris Cole observes in *Women*, this partnership apparently helped female architects avoid being type-cast completely as house or housing architects. Successful partnerships included **Victorine Homsey** and Samuel Homsey who specialized in schools and theaters in Delaware, and **Elizabeth Sheu** and Winston Close of Minneapolis.



Elizabeth Coit: offices for Walker Gordon Milk Co., 1931, *The Architectural Record*.



## Women in architecture

Of the husband/wife partnerships coming to prominence in those years however, the best known is the paired partnerships of two couples, **Sarah Pillsbury Harkness** and John Harkness, with **Jean Fletcher** (1915–1965) and Norman Fletcher. Under the leadership of Walter Gropius they and other colleagues founded The Architects Collaborative in Cambridge. Its Bauhaus principles and their effect on American architecture are very well known. The office's collaborative team effort became a model (as did their increasing transformation into a corporate office) for other architects to follow.

Other female architects were able to build their practices into America's burgeoning variety of life styles. **Lucille Raport** has designed houses in California such as the "second home" Lockwood House, which was built in Arrowhead, California, in 1948. **Lutah Maria Riggs** (born 1896) designed the Vedanta Temple in 1956, plus other more conventional building types. She had moved west to design stage sets for movie production companies in Hollywood, but soon began receiving larger more permanent commissions. Another California architect, **Greta Grossman**, trained in Europe, boldly experimented with new materials and technologies, as is shown in her steel cantilevered house in Beverly Hills of 1957.

Of the recent practitioners who have been attempting to explore new forms as well as new ways of thinking about those forms, **Anne Griswold Tyng** offers an example. For a long time associated with Louis Kahn (she joined the office of Stonorov & Kahn in 1945), Tyng has been experimenting with the spatial concepts in Buckminster Fuller's geometrical theories as one departure point for her architecture. In 1953 she used an octahedron-tetrahedron truss based on Fuller's "octet" truss for the addition to a farmhouse. Tyng extended the truss outside the building to create dormer windows, sun shades, and trellises. In *Women in American Architecture* Jane McGroarty and Susana Torre write that at the bottom of these structural experiments is a concern for space and how it relates to human consciousness. For example Tyng discusses space in terms of "axial or bilateral space" (related to the human body's symmetry), "rotational space" (the space around the rotating human body), "helical space" (recognition of the vertical dimension in the physical and metaphysical sense), and finally "spiral space" (a space that is understood by observing the hierarchical organization of social life). In previous writings Tyng has contended it is *proportion* that provides an objective basis for design as "a fundamental subdivision of space."

Representing quite a different attitude and approach to architecture and architectural practice are the women who joined corporate architectural firms in the years of America's building boom which



Lutah Maria Riggs: Vedanta Temple (above), Santa Barbara, Calif., 1956.  
Photo: Robert Cleveland.  
Lucille Raport: Lockheed cabin (l.), Lake Arrowhead, Calif., 1948.  
Photo: Julius Schulman.

followed World War II. One who did is **Natalie de Blois** who for 30 years was with Skidmore, Owings & Merrill. She remained invisible for most of the time that SOM developed into the prototypical corporate architectural firm offering a range of services to satisfy the building appetite of new corporate business clients. Yet, from the time de Blois entered the New York office in 1944, she worked on the firm's major commissions such as the Lever House of 1952, Pepsi Cola Building (1960), the Union Carbide Building (1960), the Connecticut General Life Insurance Company Building (1962), Equibank Building in Pittsburgh (completed in 1976), the Boots Head Offices in Nottingham, England, in 1968, and others. For over 20 years de Blois was a senior designer before she was made an associate in the firm. Nathaniel Owings wrote of de Blois in his autobiography, *The Spaces in Between*, "Her mind and hands worked marvels in design—and only she and God would ever know just how many great solutions, with the imprimatur of one of the male heroes of SOM, owed much more to her than was attributed by either SOM or the client." Today de Blois is no longer with SOM. Since 1975 she has been associated as a senior project designer with the Houston-based firm of 3D International, a company whose domestic subsidiaries are Neuhaus & Taylor, Brooks, Barr, Graeber & White and the engineering firm of Chenault & Brady. Judith Paine attributes her reasons for leaving SOM to the growing antipathy talented women have to remaining invisible. But the nature of the trade de Blois made to deal with that problem is not apparent to the public yet.

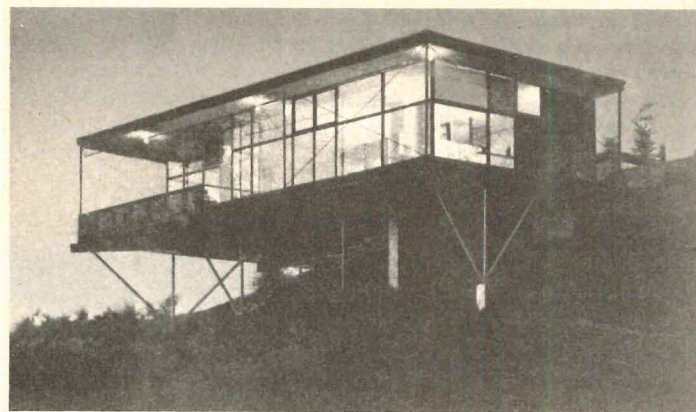
Of all the women architects of the post-war years to come to public attention, **Chloethiel Woodard Smith** has emerged as the best-known practitioner since the founding of her own office in 1963. Her Laclede Town built in St. Louis in the mid-1960s, the Capitol Park Apartments and Harbor Square townhouses in the Southwest Urban Renewal area of Washington, D.C. (for which she executed the master plan), and her townhouses at Reston, Vir-

ginia, all exemplify a concern with creating an urban place with an architecture that appeals to the public. While the vernacular overtones and historical allusions of her architecture border on the kitsch, the scale and urban design aspects of her projects work well. Jane McGroarty and Susana Torre in *Women* point to the principles of new town planning such as low-scale buildings, intimate open spaces, and clustered layouts that can be seen in the 680-unit town of wood-frame houses in St. Louis. Paradoxically the FHA initially considered the development too much akin to the run-down neighborhoods it was replacing. However its image plus its abundance of commercial and community facilities, walkways, courtyards, and of other forms of open space has guaranteed the town's marked success.

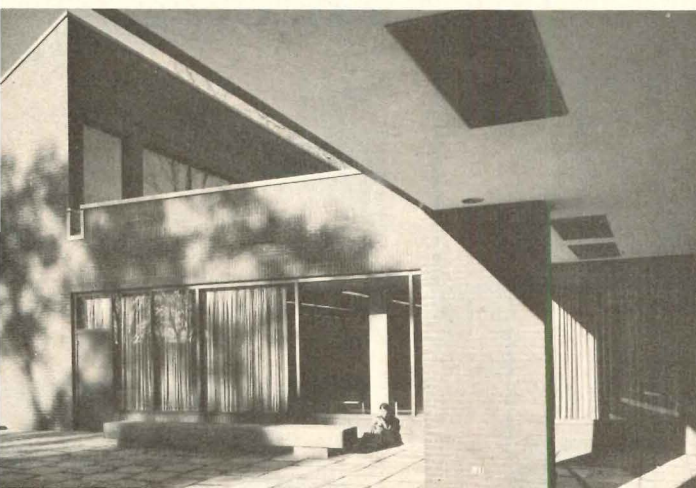
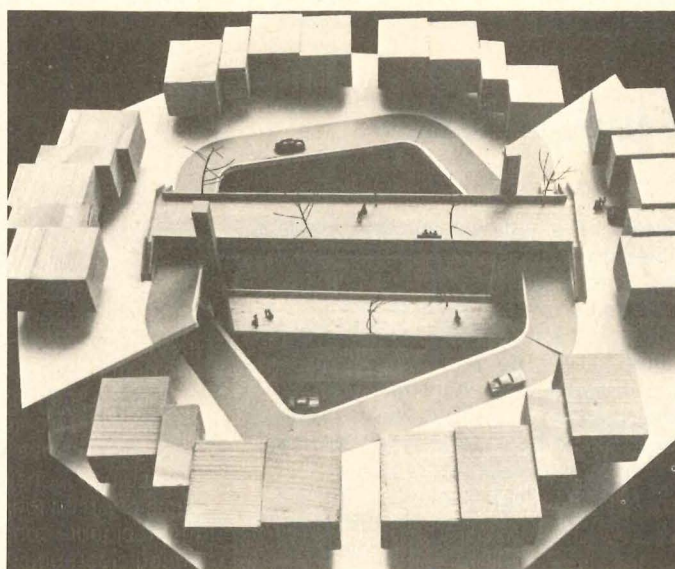
Another female practicing architect who has indicated much interest in public taste and preferences is **Denise Scott Brown**. However, her approach to the issue is much more investigative: She has been examining the symbolic meanings of America's pop-vernacular environment. Working with her husband Robert Venturi in the firm of Venturi & Rauch, Scott Brown has pushed for an architectural form that responds to public's preferences. Her efforts in trying to bridge the gap between social concerns, planning, and the symbolic aspects of architectural design are illustrated by the work that Venturi & Rauch has done since she joined the firm in 1967.

Scott Brown has also been a bold speaker on the issue of discrimination against women in architecture. She has railed against the obstacles to women's progress in profession in discussing what she terms "sexism and the star system." Brown points to the fact that architecture has been an upper-class profession in America dominated by a social order similar to men's clubs in its elitism and exclusiveness. She also sees a protégé system operating whereby a young professional (male) is trained and encouraged personally by the older male professional: women are rarely chosen as protégés because of social implication.

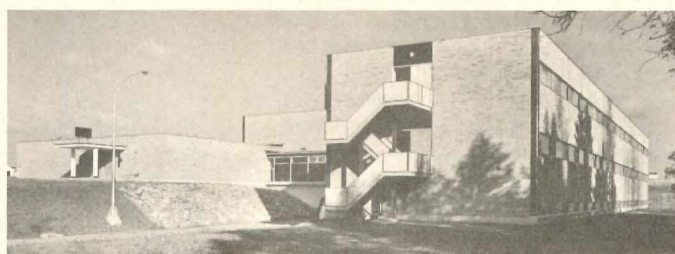




Greta Grossman: Cantilevered House, (above), Beverly Hills, Calif., 1956. Photo: *L.A. Times Magazine*. Sarah Harkness (partner, The Architects' Collaborative): Bates College Library (below), 1973. Anne Tyng: Metamorphology: Sources for Form Making (right, top), 1971.



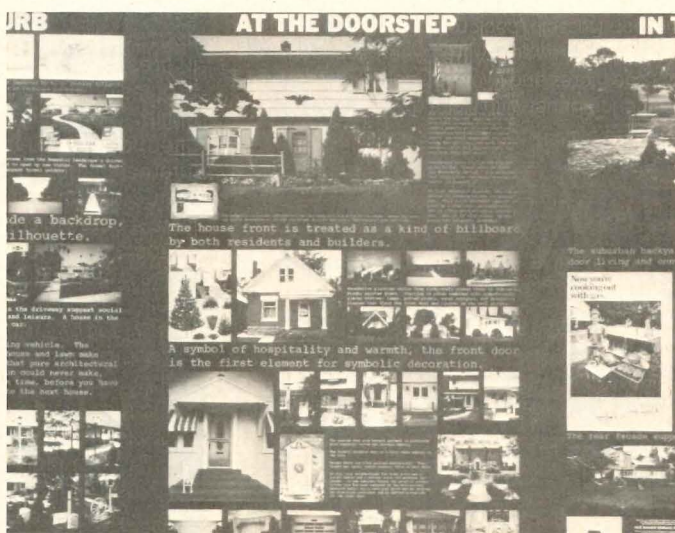
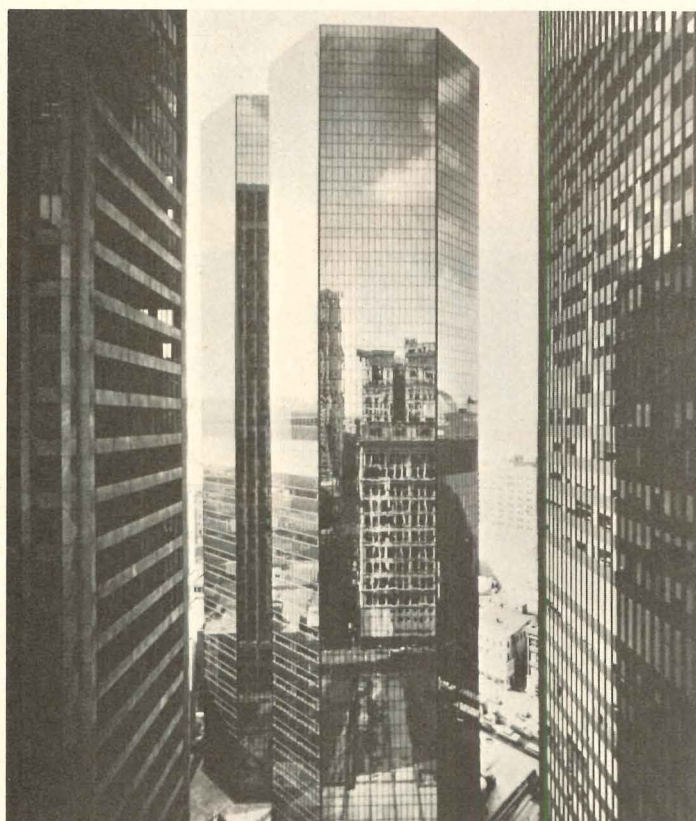
Natalie de Blois (member of Skidmore, Owings & Merrill design team): Equibank, Pittsburgh, Pa. (below), 1976. Photo: PPG Industries.



Jean Fletcher (partner, TAC): Arthur Gold Memorial Hospital (above), Presque Isle, Maine. Photo: Joseph Molitor. Chloethiel Woodard Smith: La Clede Town, St. Louis, Missouri (below), 1967. Photo: Larry Block.



Denise Scott Brown (partner, Venturi & Rauch): Panel, "Signs of Life" exhibit, Renwick Gallery, Washington, D.C., 1976. Photo: Robt. Lautman.





## Situation today

Women have had an important place in architecture, though not a well-publicized one. Their work has been more apparent in certain decades than in others. For example, in the suffragette years and again during the depression years when social reform was paramount, women were actively involved in the field. Nevertheless, according to Gwendolyn Wright in an essay in *The Architect* (Oxford Univ. Press, 1977), the percentage of female practicing professionals dropped in each decade from the teens to the 1960s.

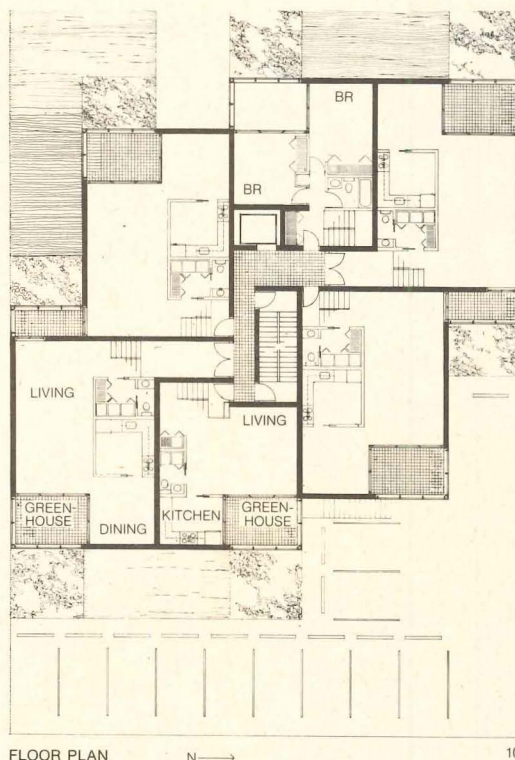
A 1975 report issued by the AIA's Task Force on Women in architects Architecture found that women now compose only 1.2 percent of all registered architects, and 3.7 percent of the entire architectural community. The problems women encounter on the job, according to the task force directed by architect Judith Edelman, include little contact with clients, little responsibility for contract administration and site supervision. In other words the report underscores the role-stereotyping that goes on in offices: women stay at the drafting table, the fabric sample files, and even the telephone and typewriter. The report also found that the average income of a male architect is 61.2 percent higher than that of a female architect with the same experience, education, etc.

The figures in the 1975 report were difficult enough to assemble; even more difficult is an estimate of how they would compare with figures two years later.

Yet many women are actively practicing. They may be working on their own, or with male partners, and in rarer cases with female partners. The usual drawbacks in working on one's own or with another female will probably continue to discourage women architects from doing so until the public is persuaded to overlook prejudices from sex stereotyping. Organizations such as the Alliance of Women in Architecture (AWA) in New York, Women Architects, Landscape Architects, and Planners (WALAP) in Cambridge, or the Organization of Women Architects (OWA) in San Francisco have been actively attacking this problem for several years. The Women's School of Planning and Architecture in Vermont, and the Archives of Women in Architecture in New York (which Susana Torre organized as the basis of the exhibit) offer obvious steps to increase this understanding.

In attempting to illustrate what other women architects not mentioned so far are currently working on, P/A presents in the following pages a small round-up of their current and some past work. The group is by no means inclusive. The material presented simply intends to give an idea of the range of architectural effort that can be seen today.

**Gertrude Kerbis**, FAIA maintains her own practice in Chicago, Ill. She was previously associated with C.F. Murphy and Skidmore Owings & Merrill, where she designed the dining hall for the U.S. Air Force Academy, (below left), the first of a two-thirds way steel truss system (305' x 305') in the U.S. Her Green House condominium apartments provide individual greenhouses for each of 11 dwelling units of the four-story-high brick and concrete block structure.



FLOOR PLAN



10'

The Green House apartments, Gertrude Kerbis, Chicago, Ill., 1976.

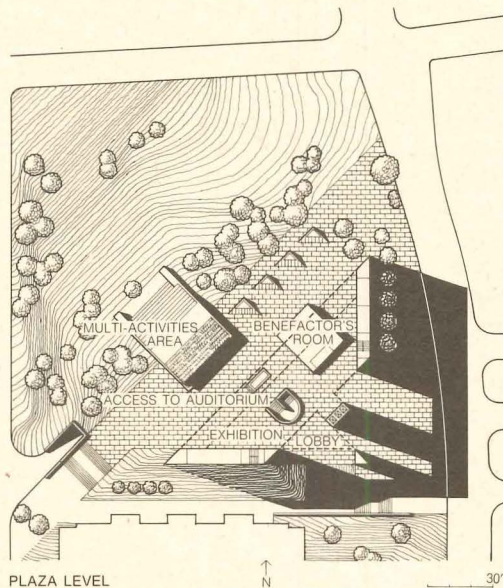


Dining hall, U.S. Air Force Academy (above Colorado Springs, 1955. Gertrude Kerbis designer-in-charge, SOM. Photo: Stewart





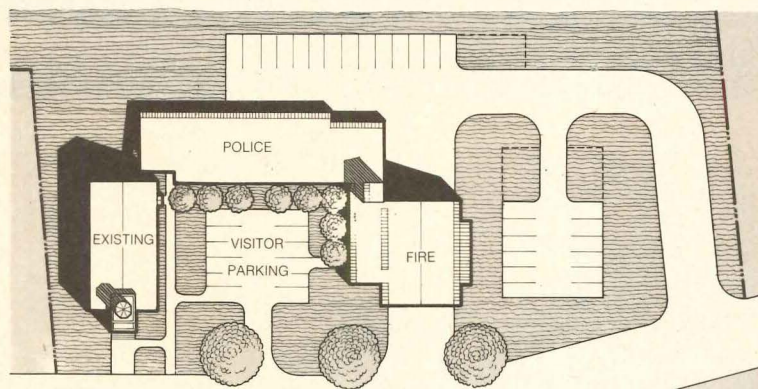
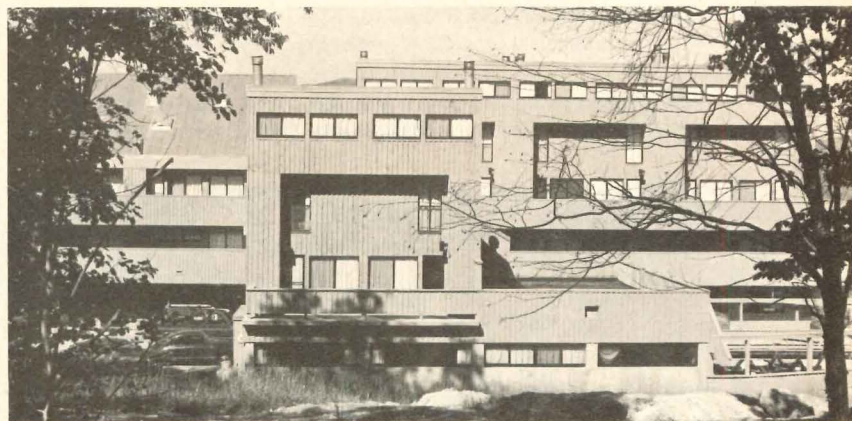
**Merrill Elam**, associate vice president and Senior Design Architect of the firm Heery & Heery in Atlanta has been project designer for a number of the firm's major projects including the Woodruff Medical Center administration building (below) a concrete poured-in-place structure of 78,000 sq ft, and the Martin Luther King, Jr. Middle School. The 167,450-sq-ft school, also of poured concrete construction, is a winner of the Georgia state AIA award.



**Sherrie Stephens Cutler** and Laurence Cutler, principals in the firm of Ecodesign, Inc., were commissioned by the Sugarloaf Mountain Corporation to design this commercial center and condominium units as part of its master plan. In another project, the Fire/Police Headquarters in Westford, two new buildings form a complex with the colonial town hall of this small New England town. Because of the town's well-preserved architectural heritage, Ecodesign sought an expression that would be compatible: the use of aluminum clapboard siding was risky but seems to have worked.

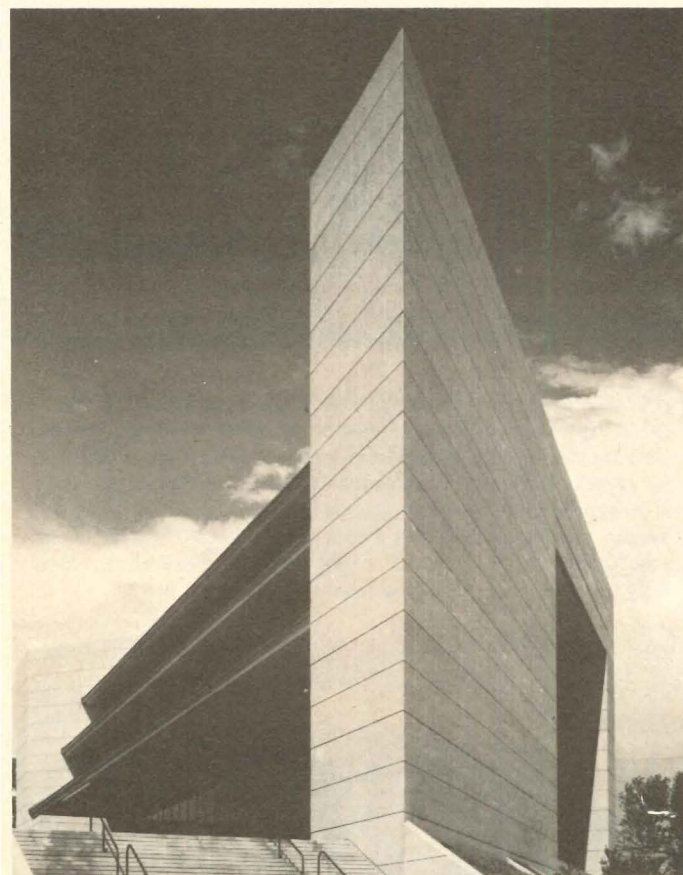


Sugarloaf/USA ski village, Kingfield, Me., 1973. Photos: Chip Carey.

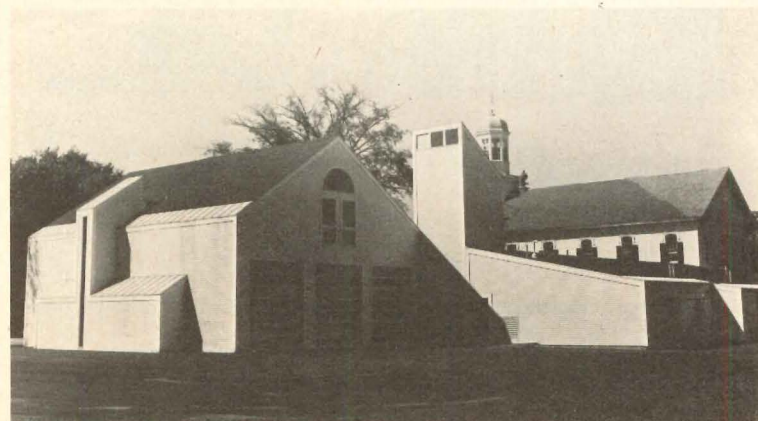


SITE PLAN

Westford Fire & Police Station, Westford, Mass., 1974.

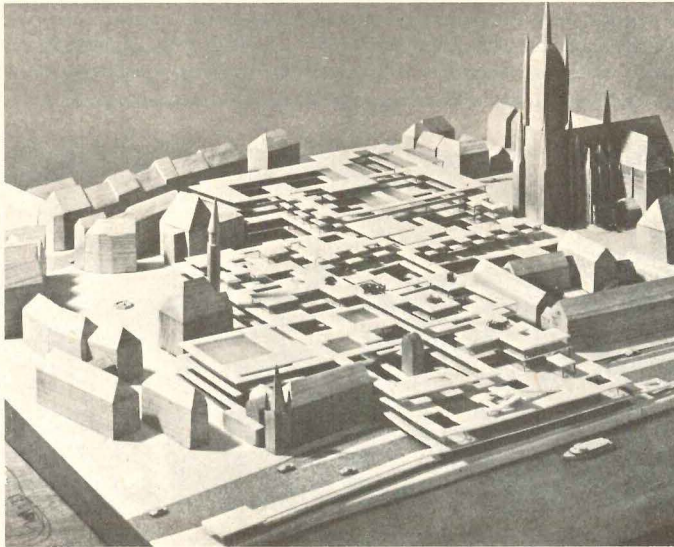


Woodruff Medical Center Administration Building, Emory Univ. (above), 1976. Martin Luther King, Jr. Middle School, Atlanta (below), 1973, Merrill Elam, designer for Heery & Heery. Photos: Jim Fagerburg.





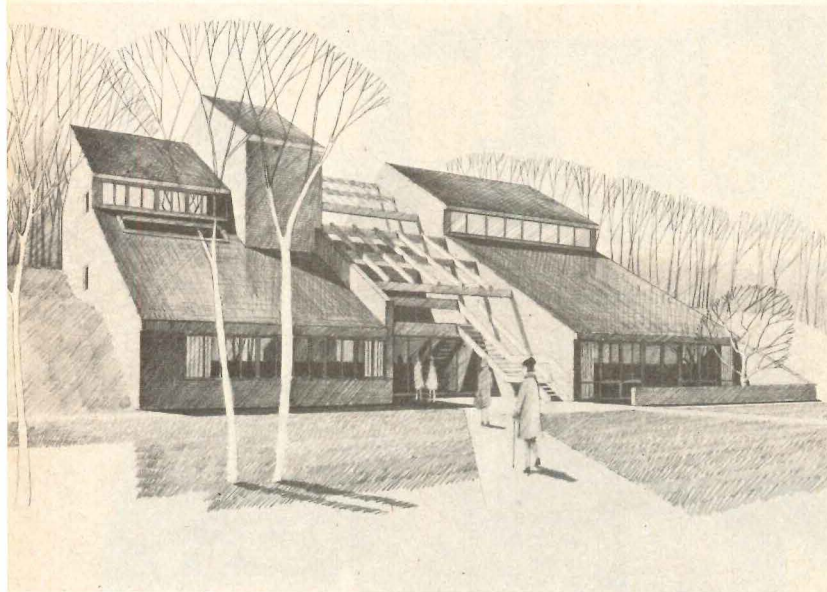
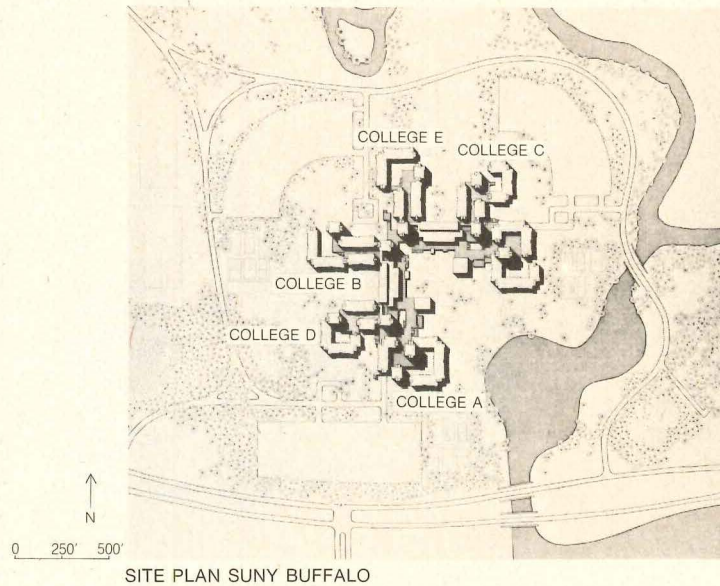
## Women in architecture: Current work



Submission to the Frankfurt redevelopment competition, 1963, Cynthia Peterson, project designer for Candilis, Josic & Woods.

Ellicott Complex, State U. of N.Y. at Buffalo, Davis, Brody & Associates; Cynthia Peterson, member of design team, 1975. Photo: Norman McGrath.

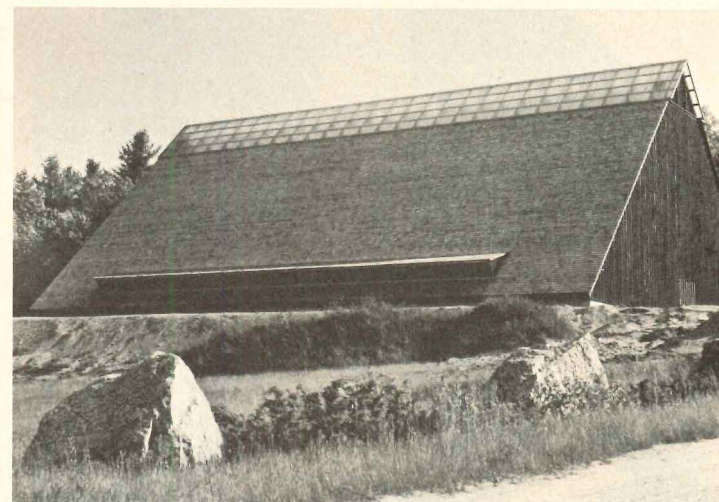
**Cynthia Peterson**, an adjunct professor of architectural design at the School of Architectural and Environmental Studies at the City College of the City University of New York also practices on her own in N.Y. She was previously associated with Davis, Brody and Assoc. where she was a member of architectural design team and project architect, interiors, for the six residential colleges of the State University of New York Amherst campus (see P/A Dec. 1975, p. 52). There she was able to apply planning principles from earlier efforts to the scheme.



Winthrop, Massachusetts Housing for Elderly project, 1977. Joan Goody, partner, Goody, Clancy & Associates.

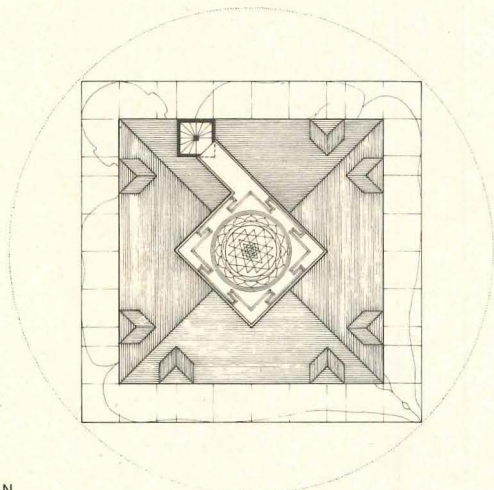
Camp Kenwood Field House, Potter Place, N.H., 1962, Joan Goody, Arch.

**Joan Goody**, a partner in the firm of Goody, Clancy & Associates, Inc. Boston, is currently designing a three-story wood-frame community center (below) plus 100 units of elderly housing in Winthrop, Mass. Before Goody joined the firm she executed the Camp Kenwood Field House using an economical prefabricated wood truss, (wood bar) system. With the system, plywood gussets and chords were joined and spaced to eliminate the need for purlins in this 78' x 105' long structure. Fifty-two wood bars, joined in pairs at right angles, form the building's roof.

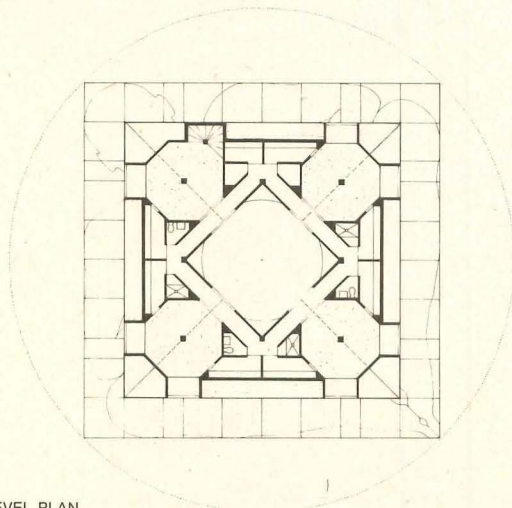




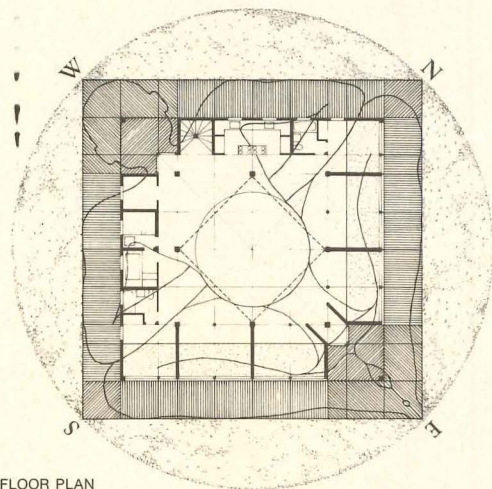
**Mimi Lobell** practices on her own in New York City and teaches at Pratt Institute. She is currently writing a book on symbolism and mythology in world architecture. The *Vastu Purusha House*, (shown below), is designed as a meditation retreat. The conceptual design is based in part on the *vastu purusha mandala* (a sacred diagram which determined the form of classic Hindu temples cities and theology) and on the *chakra* system of Kundalini yoga. The scheme is one of several designs executed to explore these ideas.



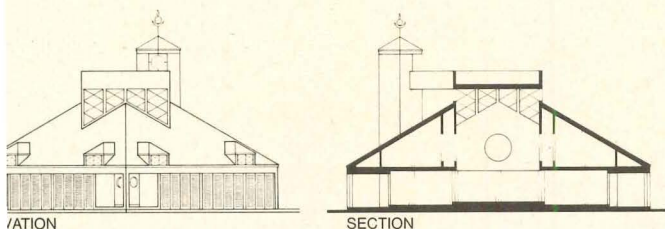
ROOF PLAN



UPPER LEVEL PLAN



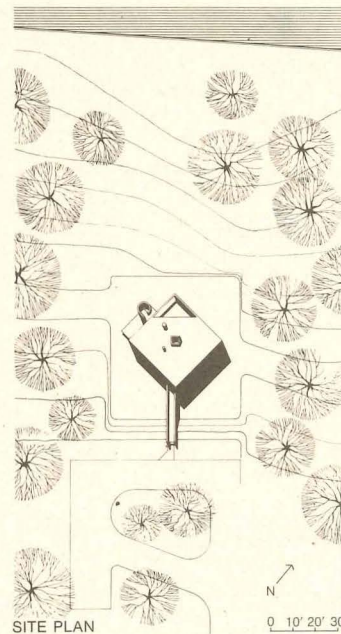
GROUND FLOOR PLAN



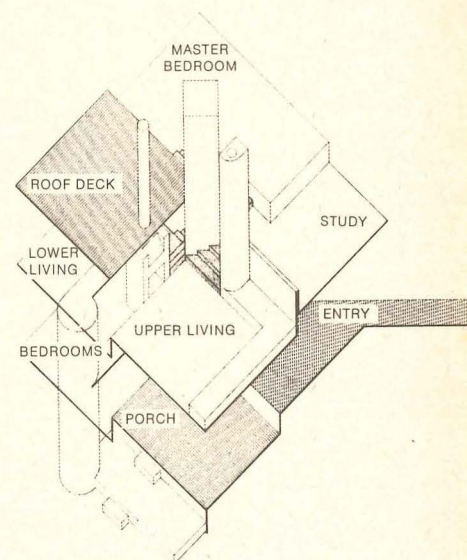
ELEVATION

SECTION

**Barbara Neski**, shares an architectural office in New York with partner-husband Julian Neski. The Simon House they designed in 1973 is a 30-ft-sq wood-frame structure located on a wooded site in Long Island. Vertical fir wood siding weathered to a gray tone clads the exterior of the cube; inside, levels spiral around a central stair core. The various levels of the pin-wheel organization of living spaces are indicated on the exterior by fenestration, decks, entry bridge.



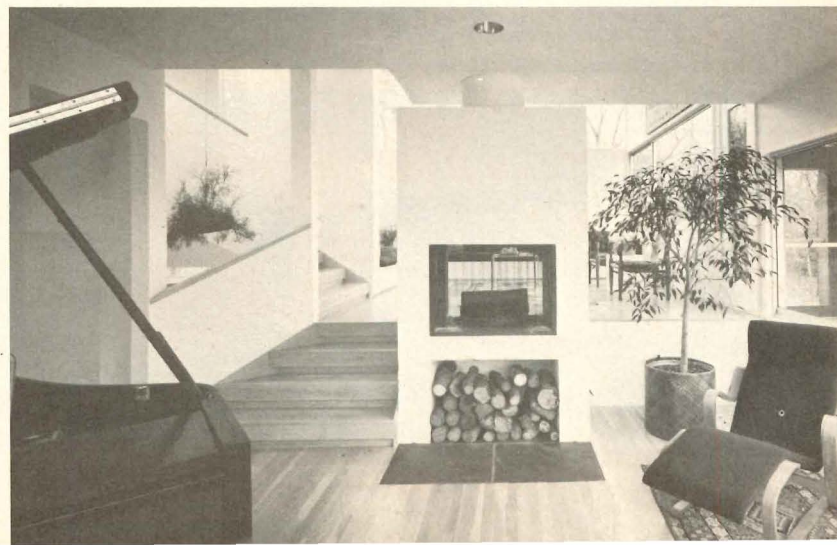
SITE PLAN



AXONOMETRIC OF INTERIOR LEVELS



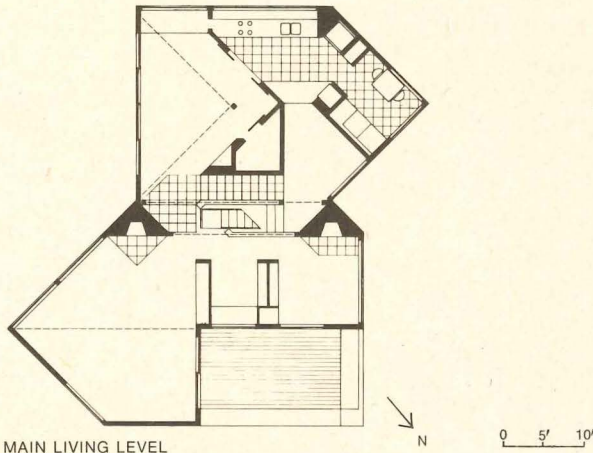
Simon House, Long Island, N.Y., 1973; Barbara Neski, main living spaces (above and below), entry approach (left). Photos: Bill Maris.



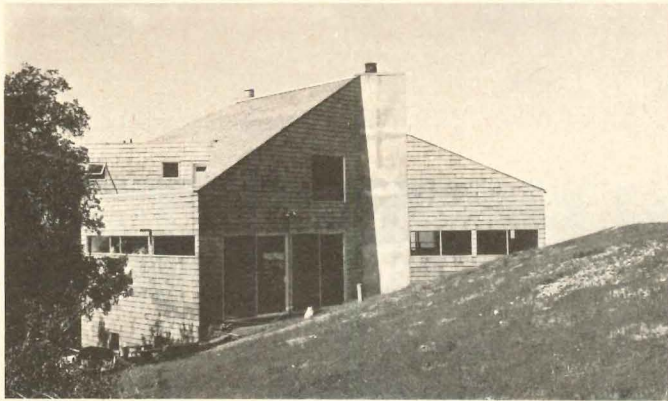


## Women in architecture: Current work

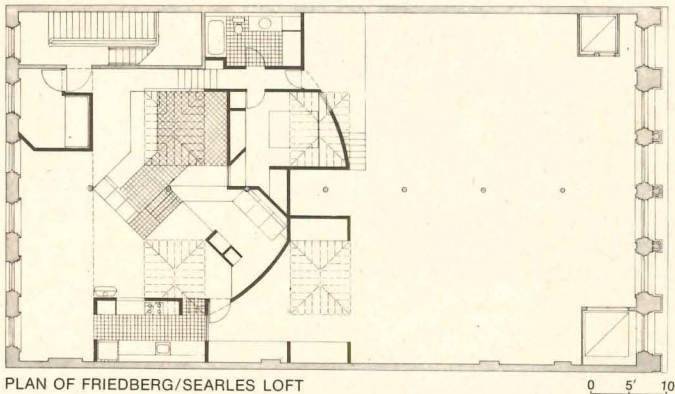
**Etel Thea Kramer** has her own firm in New York City. The two projects illustrated below include a house constructed of wood frame with red cedar shingles in California. The second project (bottom) is a loft renovation for a sculptor and a potter in New York.



PLAN OF MAIN LIVING LEVEL



House for Max Kramer, Palo Alto, Calif., 1972.



PLAN OF FRIEDBERG/SEARLES LOFT

Friedberg/Searles loft, New York City, 1974.



**Andrea Browning**, a partner in the firm of A & H Browning Architects of Arlington, Mass. teaches at Harvard University's Graduate School of Design. In these two projects the firm has renovated existing spaces: in one (photos top and middle), new uses are created in existing residential halls; the other, the main floor of the library at Hebrew College was renovated to accommodate expanded needs of the facility. Both projects are phased renovations, which have included converting old spaces into new uses and updating existing ones for expanded needs.



Living room of residential hall renovation (above); double room of former kitchen (below), Wellesley College, Wellesley, Mass. (ongoing).



Renovation, Library, Hebrew College, Brookline, Mass., 1974 (below).

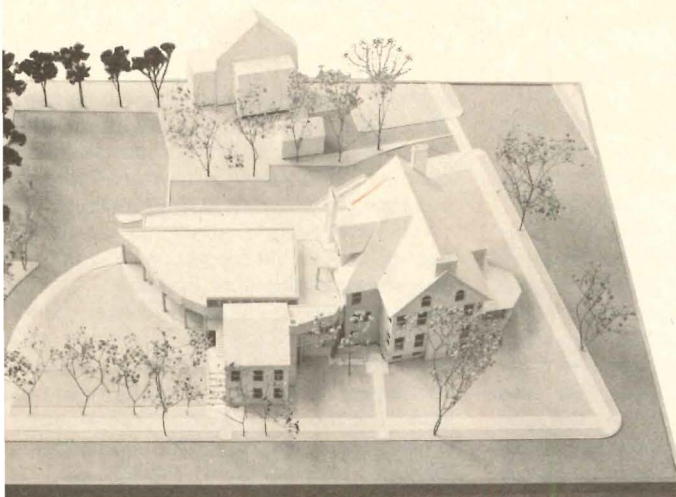
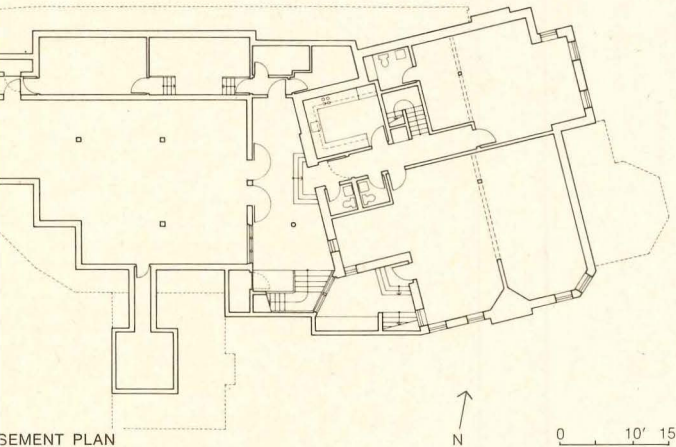




**Frances Halsband**, partner in the firm of R.M. Kliment, New York, has collaborated with Kliment on this proposed renovation and extension to the YWCA in Kingston, N.Y. The two architects desired to retain both an existing wood frame structure of the 1880s plus a brick house from the 1860s on the site. Their scheme calls for a wood one-story-high extension (plus basement level) structure to be placed at the rear of the building, with the new wing linking the two old structures harmoniously.



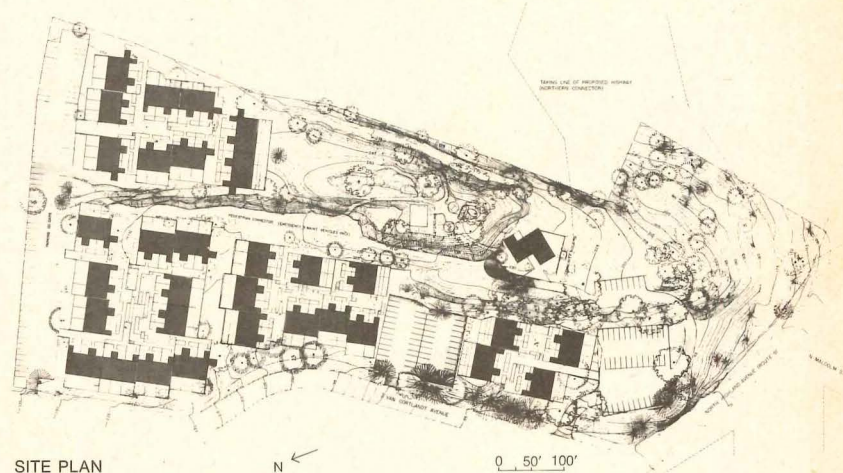
YWCA, Kingston, N.Y., existing (above) and model of proposed (below).



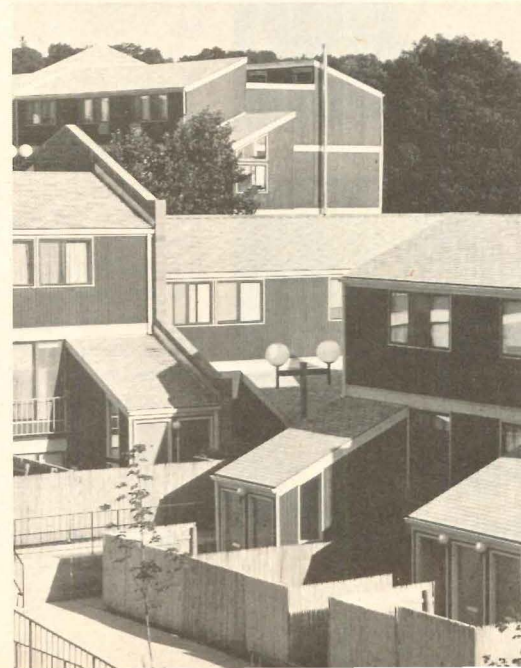
**Judith Edelman**, a partner with the New York firm of Edelman & Salzman, Architects, rehabilitated nine brownstones in New York's Upper West Side that were joined together with corridors on three intermediate floors. A second project executed by the firm is Claremont Gardens in Ossining, N.Y., a low- and moderate-income New York State Urban Development Corporation housing project (184 units) made of factory-made modular wood components.



Cooperative Brownstones, N.Y. City (above), 1968. Photo: George Cserna.



Claremont Gardens, Ossining, N.Y., 1975. Photo: George Cserna.





## Architectural criticism: Four women



Catherine Bauer with Rene d'Harnoncourt, Luis de Florez and Mies van der Rohe (front row); Hugh Lawson, Alfred Auerbach, and Gordon Russell, (back row); Edgar Kaufman (standing), Director of MOMA's competition for low-cost furniture, 1950. Photo: MOMA.



Sibyl Moholy-Nagy (above) in the late 1920s. Photo: Balazs, Berlin; courtesy, Sibyl Moholy-Nagy Papers, Smithsonian Institution Archives of American Art. Jane Jacobs (right). Photo: Peter Chr. Holt.

Sibyl Moholy-Nagy, 1968. Photo: Dileep Purahit.



Catherine Bauer in the early 1940s. Photo: Roger Sturtevant.



Of the architectural writers and critics who created a critical climate for the decisions determining the form of the 20th-Century physical milieu, a preponderant number have been women. In her essay in *Women in American Architecture* Suzanne Stephens discusses the contributions of four women critics who each represent quite distinct attitudes, approaches, and ideas about the built environment.

By narrowing her selection to these four, Catherine Bauer, Jane Jacobs, Sybil Moholy-Nagy, and Ada Louise Huxtable, she omits the valuable work of historian-critic Esther McCoy, housing writers such as Elizabeth Coit, Elizabeth Woods, or even 19th-Century writer Mariana Griswold van Rensselaer. Nevertheless, the choice of these women who were not trained as architects (not that they desired to be) allows a comparison of the specific nature of their contributions to architecture. Their interest in the written language as a way of altering the man-made landscape and their ability to communicate to the public and professionals the crucial issues of the day in areas of housing, urbanism, preservation, and architecture have been significant. But, Stephens notes, it is their "willingness to slice through the thickets of self-satisfaction, complacency, obstinacy, and protectionism in the various design professions" that ultimately unites them. Despite their extreme differences, she adds, "They were able to grasp the prevailing zeitgeist, analyze its flaws, and synthesize its solutions. Through their writing, the values, beliefs, and ideals of succeeding years would be revealed."

**Catherine Bauer** (1905–1964) achieved an immediate renown in 1934, when she published the seminal book *Modern Housing*. Subsequently, she became a housing legislation activist, helping to devise the legislation that led to the Housing Act of 1937. She was active, too, in the dissemination of information regarding the way unions could organize housing projects, such as the Oscar Stonorov-designed Carl Mackley houses of 1933 in Philadelphia. Bauer feared that modern architecture in the country would only be understood in terms of style, rather than the principles of functional planning exemplified by the modern housing of Europe.

Throughout the years of her career, Bauer communicated her beliefs to the professional public through the architectural journals, books, and papers. She foresaw the danger of urban renewal as a means of people removal from their neighborhoods. Her articles advocated a balanced clearance and relocation effort, so that residents could stay in the communities in which they had lived before moving into new housing. She called for public agencies to work with private investors so that housing would be able to attract and accommodate commercial facilities. But she didn't neglect the aesthetic needs of the users, and wrote in the May 1957 issue of *The Architectural Forum* that "We have embraced too much functional and collectivist theories and tended to ignore certain

subtleties and aesthetic values and basic social needs."

Although Bauer is not as well known today as she was in her lifetime, her role was historic: not just in prophesying housing policies but in helping to formulate them.

The contributions of **Jane Butzner Jacobs** to city planning are quite well known. Her *Death and Life of Great American Cities* published in 1961, has gradually become the guidebook to planning thinking, as the failure of large-scale urban renewal schemes has become apparent.

Few need to be reminded of the principles Jacobs put forth then—small-scale buildings, close-knit neighborhoods, street life—with city neighborhoods viewed as inviolable social and physical matrices. Stephens notes in *Women* that the same may hold true for her subsequent book, *The Economy of Cities* published in 1969. Although it has not received the same attention as the first, Stephens points to Jason Epstein's article on New York City's default in 1975 in the *New York Review of Books* (February 17, 1976) as highlighting several arguments Jacobs had made in *Economy*. By its construction boom of the 1960s, Epstein commented, New York lost what Jacobs terms "the valuable inefficiencies and impracticalities of cities"—small businesses that operate on a larger-than-craft, but smaller than mass-production, level. Because overhead is reasonably low these businesses, tied to certain larger industries, can thrive, themselves spawning other related businesses.

According to the essay in *Women*, Jacobs' spirited campaign against the shortcomings in the urban environment began early in her writing career on the staff of *The Architectural Forum*, and helped her play one of the most important historic roles in 20th-Century planning. Although the article concentrates on her written work, Jacobs' activism—such as leading the battle against the Lower Manhattan Expressway, her help in the defeat of an urban renewal scheme in Greenwich Village—should be remembered.

The career of **Sibyl Moholy-Nagy** (1903–1971) as architectural historian and critic didn't begin until she was in her late 40s. In fact, the *Experiments in Totality* published 1950, a personal account of the life of husband Lazlo Moholy-Nagy appears to be the first major piece of architectural writing she undertook in this country. Then for the next 20 years there was scarcely a month that an article didn't appear in the architectural press. During this time she not only wrote four more books, but developed a famous four-year continuous history program at Pratt Institute.

Sibyl was never one to mince words, an aspect of her writing personality that gained readership and reputation, and lost her friends along the way. For example in the *Progressive Architecture* issue of April 1953 about the 1952 "Architecture U.S." (A show at the Museum of Modern Art) she said "The triumph of Modern Architecture is the triumph of Ezra Stoller and his colleagues." At a time when the high-rise



glass and steel tower was becoming acceptable, Sibyl attacked Mies' Lake Shore Drive apartments of 1951 for their uniformity, lack of privacy, lightless, airless bathrooms and kitchens, impassible dining nooks, and living rooms facing each other.

In the essay in *Women* other examples of Sibyl's spirited and often too prescient insights into the weaknesses of modern architecture are illustrated. Her contributions are put into dramatic relief by her background: the girlhood in Dresden; the early career as a stage and screen actress then script writer for a motion picture house; an assistant to Lazlo, then novelist, before arriving at her final career.

Unlike the three preceding critics, **Ada Louise Huxtable** has relied almost exclusively on the printed word to shape decisions affecting the physical environment. Whereas the others participated in various forms of activism (legislative in Bauer's case, adversary in Jacobs', and teaching as in the case of Sibyl Moholy-Nagy), Huxtable has concentrated on the critical essay form. The extent of her influence and her contribution to a critical architectural climate has been extraordinary. For she has reached the general public, including that powerful sector that controls the creation of the man-made landscape—developers, financiers, city officials, and patrons—as much as professionals do.

In 1963 Huxtable was the first architectural critic appointed to a national newspaper, *The New York Times*. Since then she has carved out an uncompromisingly high standard of criticism which the public could understand. She has done so with keen intuitive insights, a conceptual framework that could be shared with lay people, a language that is comprehensible, and above all the courage to speak. The language itself—coolly elegant in the most piercing of attacks—delights public and professionals alike with its masterfully succinct phrasing, its unerring precision in the choice of words. Few were surprised that Ada Louise was the first critic to receive the Pulitzer prize for distinguished criticism (on any subject) in 1970.

The reasons Huxtable has been able to get this kind of readership has as much to do with her conceptual approach as with her writing style. As Suzanne Stephens points out in the essay in *Women*, Huxtable's approach is based more or less on the pragmatic methods propounded by William James. Paralleling James's equation for arriving at truth, Huxtable begins with the "idea" as contained in the architect's intention. The "reality" is provided by the built product and its context. "Truth" is revealed in the relationship of one to the other as that reality experienced by the critic and its users. In this way, the pragmatic critic effects change: for as truths emerge and are described or interpreted, the ideas or intentions can be altered; as reality is thus modified, new truths emerge which leads to new expressions, realities, truths, and so on. The mutability of truth and reality also means a critic has to continually reformulate her or



Ada Louise Huxtable. Photo: Dorothy Alexander.

his criteria. As Huxtable has commented, "The original strength of a movement at one period may eventually become its weakness during the next."

In criticizing architecture and planning concepts, Huxtable has investigated the larger context of realities—the political, social, and economic ones—and made its truths an important part of her architectural judgment. Therefore she has written: "The architecture critic is dealing only tangentially with the production of beautiful buildings. What counts today are the multiple ways any building serves a very complex and sophisticated set of environmental needs. What is it part of? How does it work? How does it relate to what is around it? How does it satisfy the needs of men and society as well as the needs of the client? What does it add to or subtract from the quality of life?"

The pragmatic approach, the broadly based standards for criticizing architecture have not satisfied everyone, particularly those of a more idealist-rationalist mentality. There are those who have considered Huxtable's approach as lacking an internally consistent system of criteria, a theory informing the judgments, particularly the formal ones. How could she like I.M. Pei's Dallas City Hall and Venturi & Rauch's museum addition to Oberlin College, for example?

But Huxtable considers the flexibility of her critical stance historically necessary during the time she evolved it. In a recent interview, Huxtable did express a desire to explore questions of a "less temporal" nature, to delve into the theoretical questions that involve the profession right now. During this period of slowed economic growth, Huxtable is fully aware of the "intense soul-searching" going on, and acknowledges that the basis of intelligent and responsible criticism is changing. With regard to her past work, she contends "I don't want to be boxed in by the role I have created; I am not satisfied to recycle myself according to the expectations of others."

Her fans of course would like to see her

continue her crusading role—her vent-the-spleen style restrained by elegant diction. Who will ever forget her statement in the critique of the Hirshhorn Museum by Gordon Bunshaft of SOM: "Bunshaft is known for a kind of monumental absolutism so unyielding that the environment crumbles before it."

Yet there are signs that her style too is changing. As she said in the introduction to her recently published collection of essays *Kicked A Building Lately?* "If some of these essays seem mellow, if the tone seems a little less desperate, if the thread is no longer a sustained wail, it is not because there are any fewer battles to be fought; it is because they are taking place on different ground. The situation has changed. The campaigns are now being waged with the backing of an unprecedented public commitment and a vastly increased public knowledge . . . What has happened is that there is a far more sophisticated sense of architecture and a deeper response to the built world today than ever before in history . . . The voice in the wilderness role has passed."

There is in this last sentence perhaps too much optimism. Fortunately Huxtable is aware that old crises and new dangers may arise. The sophistication of some of the current architectural expressions, Huxtable fears, will extend the distance between the average person's understanding and the architect's. The role of interpretation and criticism is becoming even more important.

As the above thoughts indicate, Huxtable's subject matter and content may change somewhat in the future. The insights, the intelligence, the conviction are her constants—along with the pragmatism. But as the essay on Huxtable in *Women* concludes "Pragmatism without her sense of ethics would subvert the nature of the truth; the moral tone without a firm objective sensibility and strong factual basis would appear as inchoate outrage. And finally Huxtable's tone of objectivity and reliance on fact would mask the message without her persuasive prose."



# Two machines

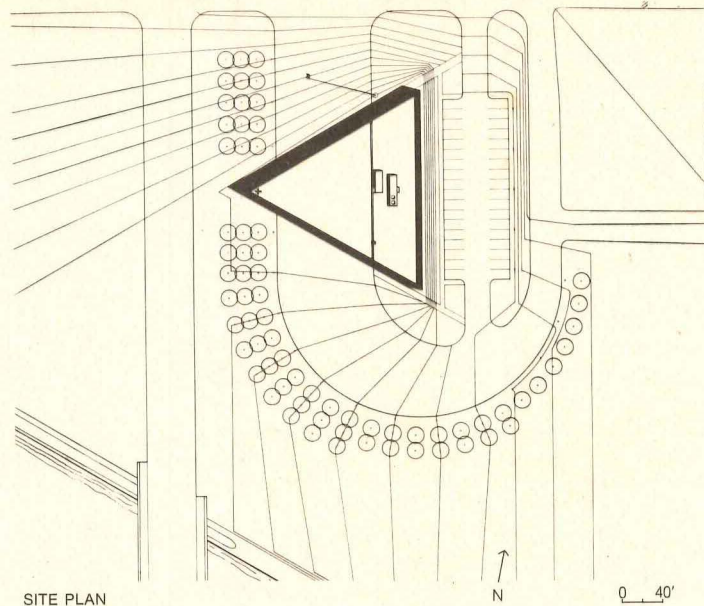
**Two 'machine aesthetic' buildings have recently been completed: one is the Municipal Fire Station in Corning, N.Y., by Gunnar Birkerts & Associates; the other is the Greater Model Community Recreation Center in Baltimore, Md., by Designbank Incorporated.**

During the 1974 P/A Awards proceedings, the jury singled out several projects designed in the "machine aesthetic" which they did not want to award, but on which they did want to comment (P/A, Jan. 1974, p. 66). To some of the jurors this "unfortunate trend" represented only a styling device that did not necessarily have anything to do with the programs of the individual buildings. The most extreme reactions of the judges came from Denise Scott Brown, who said "I don't approve of the whole approach," and Paul Kennon who thought "they're all very skillful." Whether one agrees with their attitudes, or with juror Barton Myers who noted "it's not that one is right or wrong," Scott Brown's "damned mechanical aesthetic" is upon us, and two of those projects singled out are now completed.

While Gunnar Birkerts' fire station in Corning, N.Y., and Designbank's recreation center in Baltimore, Md., share nothing in common other than a related aesthetic approach, both were faced with sites that demanded little or no participation from the buildings on them in relation to their immediate surroundings. As a consequence, both are legitimately—and forcibly—free-standing objects that respond primarily only to the ground directly beneath them. The only other thing these buildings have in common is the reflection of an acknowledged playful intent on the part of their designers.

## Municipal Fire Station

In discussing the fire station in Corning, Gunnar Birkerts states his belief that "symbols or metaphors don't have to be complex or even necessarily elevating; they can be obvious and, I hope, fun." In this building there are two major analogies evident. The most obvious is related to the image of the bright red fire truck with its shiny steel and chrome; the less obvious relates to images of space technology and, more specifically, to the systems of communication used in space exploration.



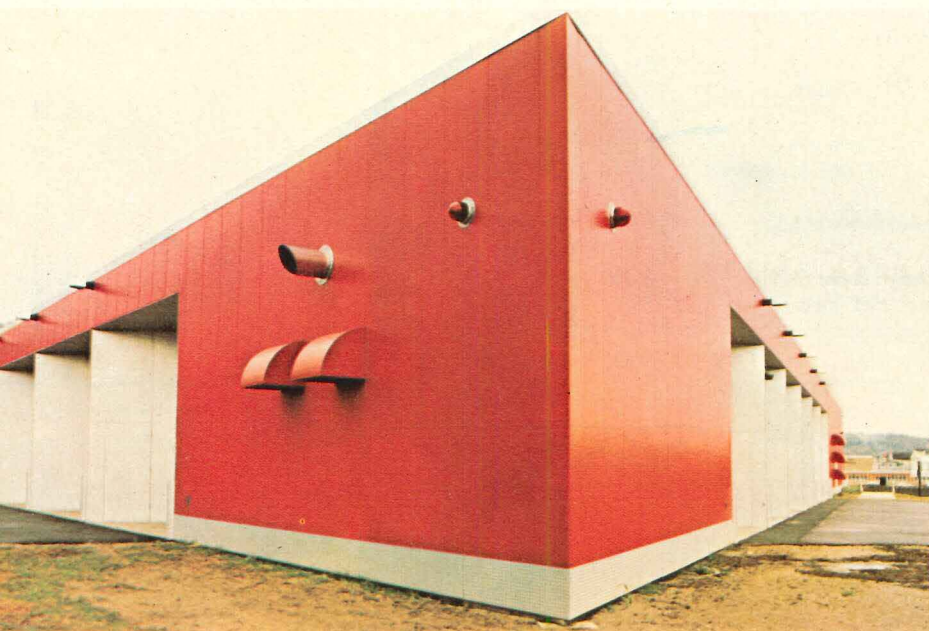
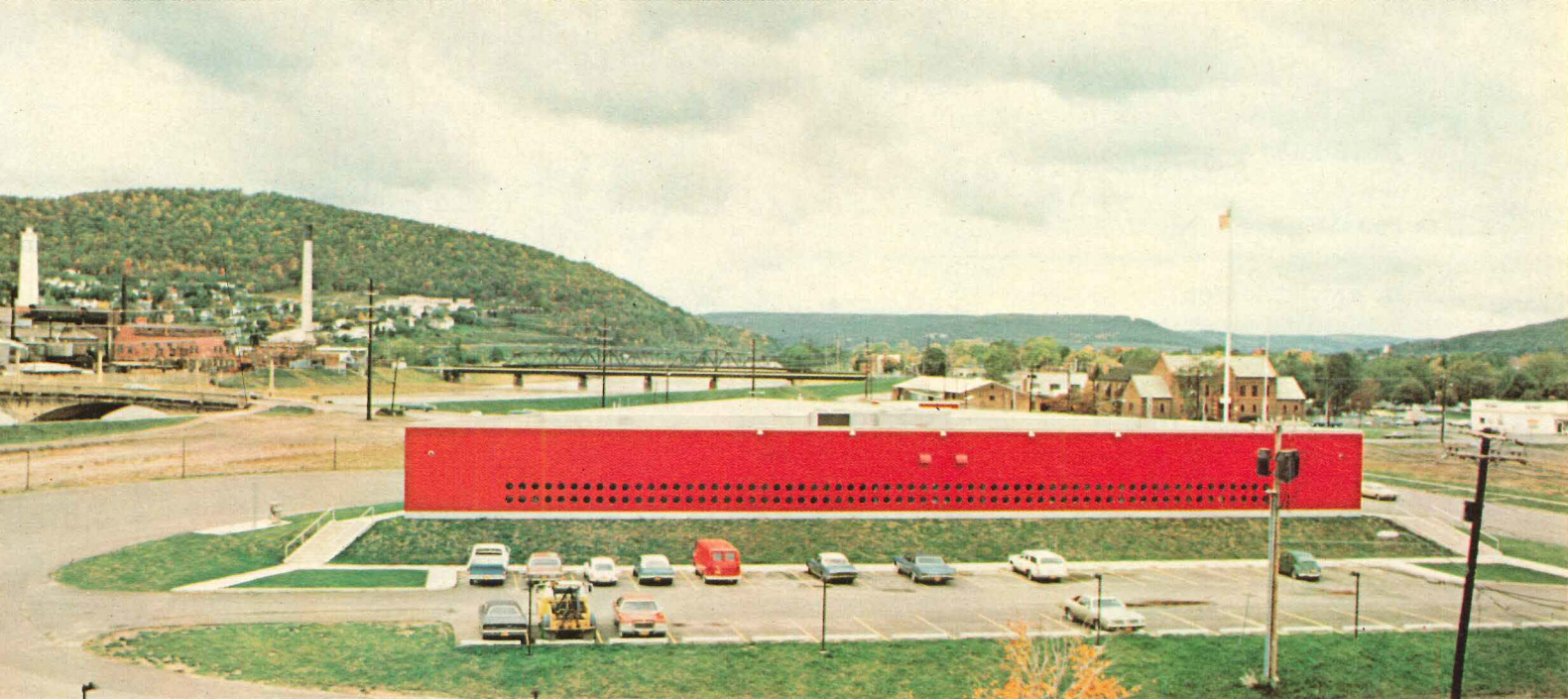
The exterior of the building is clad in fire-engine-red metal panels, with aluminum checkerplate used as the building base and at entrance landings. At the top of each wall, polished stainless steel coping leads to a silver roof (of aluminum coating over a smooth surface of built-up asphalt on rigid insulation, which is visible from much of the town due to the building's valley location). Exterior glazing is set in round openings with neoprene gaskets. The mechanical system serves the building from rooftop units through exposed metal ducts. Exhaust grilles are chrome, while exhaust hoods are painted red and strongly expressed on the exterior. To complete the image, red gyrolights that act as "silent alarms" to those nearby (the townspeople did not want sirens screeching at the station continually) are placed at the corners of the building.

Inside, most of the ceilings are aluminum-colored, and in the apparatus room, the floors and walls are too. Elsewhere, floors are neutral and walls are navy gray or a color. Translucent tubular lighting is used throughout, and fixtures and hardware, like those on a fire engine, are of polished chrome.

The other analogy the fire station acknowledges is that building type's "similarity," at least in terms of systems of communication, to space exploration. In this respect, the station can be seen as a command headquarters, or "base ship," capable of dispatching satellite ships to particular destinations as required. As calls are received at the station, either by telephone or through the space-image-designed call boxes placed throughout Corning, their information is immediately fed into a computer. The computer can then project slides and plans of the building(s) involved, analyze the problem, determine the kind and amount of equipment needed, and alter city traffic flow to the convenience of the fire engines. In the clean, simple interior of the building, and certainly in the design of the plan itself, other references to the theme of space technology are readily apparent.

In addition to the analogies represented in the building, another important aspect is its function as an art work—as a huge, monolithic piece of minimalist sculpture. After floods ravaged Corning a few years ago, most of the buildings along the river bank were washed away, leaving a path of barren floodplain stretching through the center of the





A U-shaped drive for fire trucks passes directly through two sides of the Corning fire station (left), but car parking is at the rear, east side of the building next to the offices and living spaces (top). The building is in a flood plain, but raised on earth dredged from the riverbed. Like a fire truck, red metal and aluminum checkerplate enclose the form, and red gyrolights flash at corners (left) in emergency.



## Fire Station

city. While conventional rebuilding would have been unwise on this site, its central location offered an ideal place for a much-needed new fire station.

Given the circumstances of this site, Gunnar Birkerts conceived the only kind of building that might do anything for its desolate surroundings—a large, monolithic form that, like sculpture, involves and “consumes” the space around it. Through a conscious extension of this idea the fire station, when viewed from the hillside, functions as a pointer in the landscape through which one plane of the triangular building directs the eye toward the downtown and the glass factory across the river, while the other face responds to the town’s major tourist and community attraction, the Corning Glass Exhibition and Administrative Center. The entire building is raised high on a mound of soil removed from the riverbed, and this in itself allowed the building to be constructed on the floodplain, and had the double advantage of deepening the river floor.

The last and most important aspect of this building is, of course, its quality as a fire station. If the building concerns itself with certain images and presents itself as an art object, it is obvious from the plan that it never does so at the expense of its function. Here, functions are not fitted into a geometric form which is then “decorated” with certain images. In every case, the form and the images are subservient to the function. As Birkerts explains it, “everything is tested out functionally to make sense; I’m not imposing a form on a program, but rather synthesizing functions into a system that allows simplification; I’m not trying to establish form, I’m trying to simplify it through finding relationships that mesh.” Ultimately, this building deals with the difference between analysis and synthesis, between dogma and reason, even if it may not appear that way at first.

### Data

**Project:** Municipal Fire Station, Corning, N.Y.

**Architects:** Gunnar Birkerts & Associates; Paul Chu Lin, design associate; Barbara J. Bos, director, interior design; Gunars Ejups, director, construction administration.

**Program:** a new, 17,300 sq ft volunteer fire station to replace an outmoded structure.

**Site:** on a flood plane, site built up with river gravel which helped to deepen river, central location visible from many points in the city.

**Structural system:** lightweight economical steel structure; columns located at perimeter of apparatus room (vehicle space) with steel trusses spanning space to allow room to be column-free.

**Mechanical system:** heating and air-conditioning provided by rooftop units; unit heaters supplement at entries.

**Major materials:** standard size metal-clad insulated wall panels; aluminum checkerplate used as trim and protecting surfaces; walls of nonbearing block masonry on steel stud, drywall with vinyl covering. (See Building materials, p. 100.)

**Consultants:** Gunnar Birkerts & Associates, interior design; Hoyem-Basso Associates, Inc., mechanical; Skilling, Helle, Christiansen, Robertson, structural; Halpert, Neyer & Tiseo, soil and foundations; Ken Bruielly, Inc., plumbing; Hogg-Nichols, Inc., HVAC; Box Electric Co., electric; Wolf and Co., cost estimating.

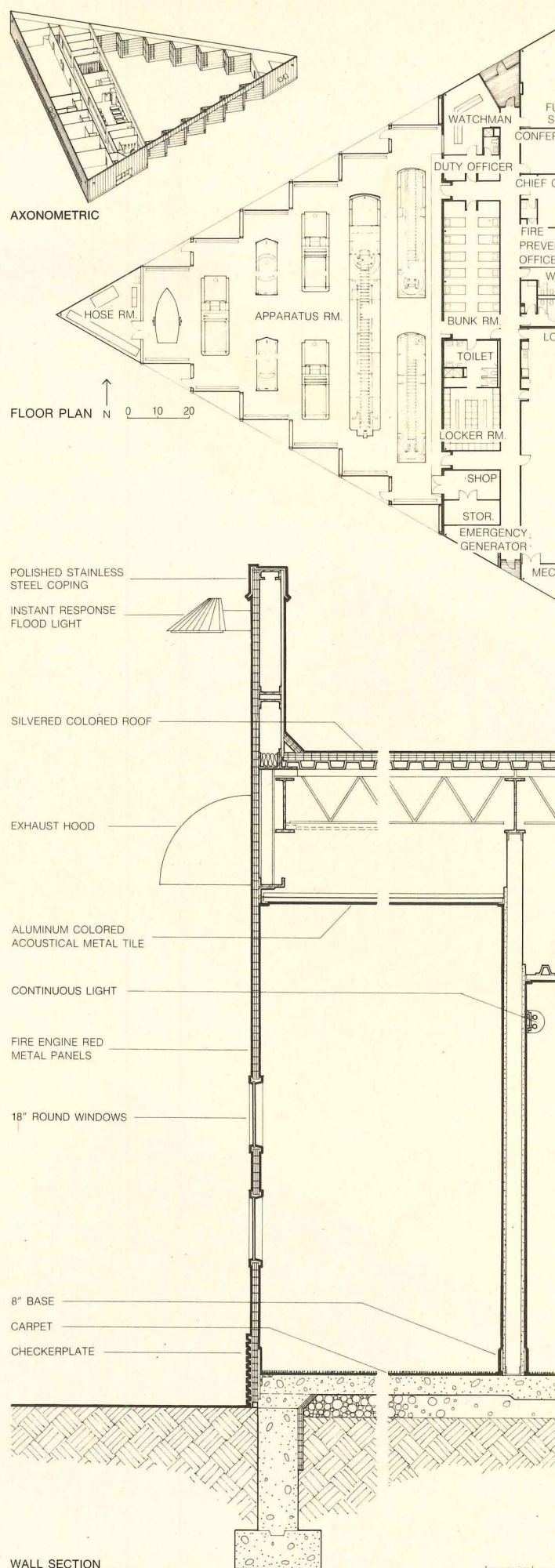
**General contractor:** Keuka Construction Corp.

**Construction management:** McKee-Berger-Mansueto, Inc.

**Client:** city of Corning, N.Y.

**Costs:** \$900,000, \$52/sq ft, including all site work.

**Photography:** Gunnar Birkerts







As a pointer in the landscape, one side of the station looks to downtown Corning (bottom of photo), another side faces Corning Glass Exhibit and Administrative Center (middle of photo).



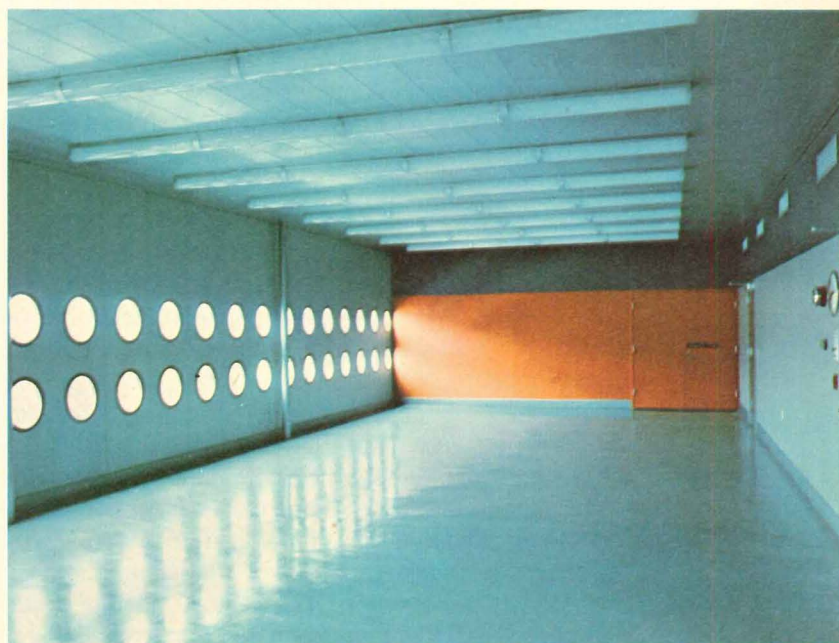
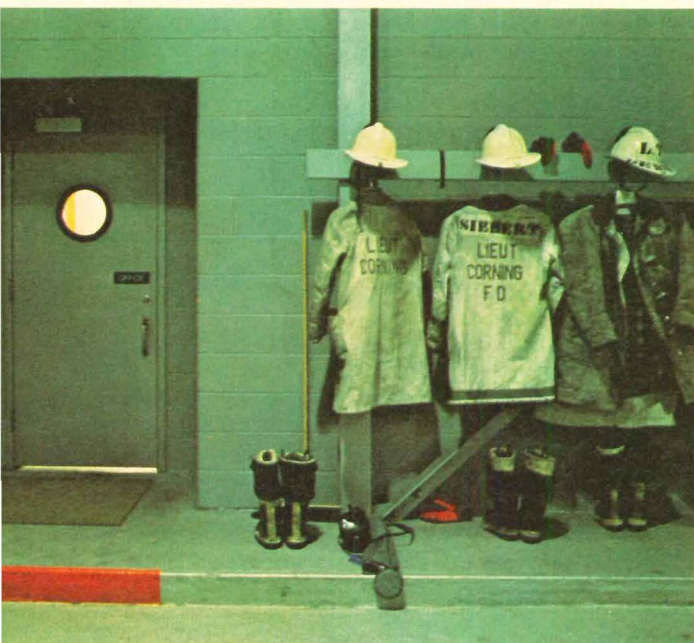
Space-age fire boxes (above) dot Corning's streets and reinforce fire station's image.



In apparatus room (above and below) machine aesthetic is carried through in fire engine imagery, where red and aluminum predominate as colors.



In living and working spaces, such as the watchman's station (above) and lounge (below), rich colors effectively compliment space-age imagery.





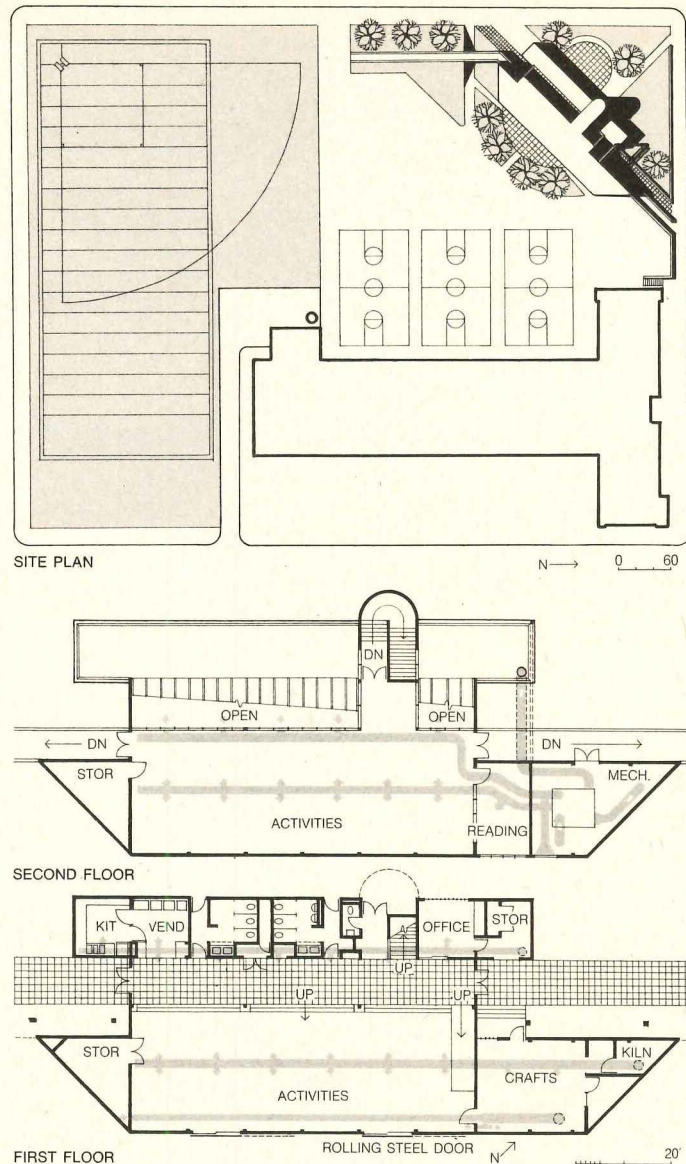
# Recreation Center

In the low-income black community of Poppleton in Baltimore, a building designed for recreational purposes has in itself become a giant piece of play equipment. In order to make effective use of the site, which is 6 ft lower than the sidewalks surrounding the building's corner location, the architects have designed a large ramp that sweeps down a half level from the sidewalk to the main entrance. Another ramp rises half a level to the second floor entrance. Both ramps extend through the building as major passageways and emerge at the other end of the linear structure. With this simple, yet dramatic gesture, the architects have turned the whole building into a series of inclines for running, roller skating, and bike riding. They have also recognized a previous condition of the once-vacant site, which a more conventional building might have ignored: the new system of ramps and corridors precisely follows the route of a footpath that had been used for years as a short-cut to the school at the other end of the block.

In addition to the building's use as a play element, it also functions as a learning device, for the whole structure is designed to impart knowledge about how a building goes together. All heating and air-conditioning ducts are brightly painted, exposed, round tubes with bold graphics to note which are for supply and which are for exhaust. The steel structure of columns and beams is exposed so there will be no mystery about what holds the building up, and how it was put together. An additional intent of the architects was to do this not with costly, customized materials, but to exploit and make understandable the nature of off-the-shelf catalog components, such as industrial wall panels and hardware, and a clip-on greenhouse skylight that runs the length of the major circulation path.

Like the Corning fire station, the surroundings here offered little of importance to respond to. The block on which the recreation center is located had been cleared, except for the old school. Undistinguished 19th-Century row houses face some parts of the block, but the setting is essentially one of treeless streets with large parcels of land left vacant by demolition. Because the center is to be the first phase of a planned community renewal effort, the community residents (who have been intensely involved in the project from the beginning) and the architects agreed that the new building should be one that would stand out as a fresh and exciting event to mark the beginning of new life in the neighborhood.

Not only is the center totally barrierfree, but it has also been designed with an unusual attitude toward vandalism. The architects have taken an approach that recognizes the need for natural light when people are in the building. As a result, large windows are installed at the ground level, but they can be closed with sliding steel "barn doors" that roll in front of them. All exterior glazing is high-strength acrylic, but as it turns out in retrospect, none of these precautions was really necessary. Because the community has been involved in this center from the moment of its inception, a building has resulted that the community feels is its own. And the best proof of this is that both during construction and since it has been occupied, not one item has been stolen or damaged, and there has been no graffiti, no vandal



action against the building, in an area where such occurrences are commonplace. The kids spend hours in the building, skating up and down the ramps. It's their toy, and they don't want to break it. [David Morton]

## Data

**Project:** Community Recreation Center and athletic fields, Baltimore, Md.

**Architects:** Designbank Incorporated; Nathan S. Leblang, project architect; James Pettit, graphic design; John S. Palmer III, project coordinator.

**Program:** recreational facility of 8000 sq ft for community activities, flexible space for games, meetings, learning; gymnasium not required as adjacent school has one; swimming pool to follow in next phase.

**Site:** except for existing adjacent school, a vacant inner-city square block partially surrounded by old row houses.

**Structural system:** masonry bearing walls, steel frame, metal deck; floors of steel with concrete fill; all walls are block; spread footing foundations.

**Mechanical system:** forced air heating and cooling; two zones, exposed spiral metal ducts.

**Major materials:** exposed block; interior surfaces covered with high-gloss polyurethane paint; exterior covered with spray-on polymer, rough stipple finish; corrugated aluminum siding; acrylic skylight and glazing. (See Building materials, p. 100.)

**Consultants:** James Posey Associates, mechanical/electrical; Gerald A. Brown, P.E., structural; Daft, McCune, Walker Associates, site civil.

**General contractor:** Castle Construction Company, Inc.

**Client:** Department of Parks and Recreation, City of Baltimore; Model Cities Community, Council G; Bureau of Construction Management, City of Baltimore.

**Costs:** \$460,000 including site development; \$53/sq ft.

**Photography:** Nathan S. Leblang, Jeffery Kilman.





North-west façade (above) and south-east façade (below) show ramps that extend through Center.



Main entrance is at north-east corner (below); graphics inside (right) have educational role.





# Music to my ears?

**Philharmonic Hall, renamed for Avery Fisher after he gave a substantial gift to Lincoln Center, has now undergone its fourth renovation. The outcome has raised many questions about the value of the effort.**

Fourteen years after the initial opening of Philharmonic Hall at New York's Lincoln Center, the New York Philharmonic is now playing in its fourth acoustically and architecturally different hall, albeit under the same roof and behind the same façade. After the first three renovations, all begun with the greatest of expectations for acoustical improvement and all ended with less-than-hoped-for results, it became clear that remedial efforts to improve the acoustics were simply not going to work; a change of ceiling plane or the addition of wall reflectors did not improve the underlying acoustical defects. The fourth and latest renovation began by gutting the entire concert hall and leaving only the public circulation spaces, which surround it on three sides, intact. It is, in fact, a testament to the adaptability of the modern vernacular that so much has changed while the travertine façade has continued to stand, unfaltering and expressionless, as its insides were torn out yet again.

The new hall opened on Oct. 19, 1976, after an intense six-month, 24-hour-a-day construction schedule and a total of \$6.5 million. It made front page headlines the following morning and was heralded as a success by New York music critics. One almost felt, after the first few chords, a sigh of relief in the audience that, at least this time, the hall was, in fact, better than its predecessors, an obvious point of comparison, but also an irrelevant one. It would not have to be exceptionally good to be better.

Cyril Harris, whose reputation as an acoustical wizard was gained through his designs for Washington's Kennedy Center Concert Hall and Orchestra Hall, Minneapolis, bases his work on the traditional rectangular model of Boston Symphony Hall and it is this form which the new hall took architecturally. All three halls, while visually quite different, have common elements basic to Harris's philosophy of acoustical design: the rectangular shape with the stage at one end; three levels of "tiers" (balconies lack panache) with convex surfaces to scatter sound; broken unparallel wall and ceiling planes as impervious to sound trans-

mission as construction will allow. The underlying principle of these unyielding, broken surfaces is to reflect and scatter the entire frequency spectrum of sound throughout the hall. (For a comprehensive view of the various approaches to acoustical design see P/A, Nov. 75, p. 54.)

Harris's attention to detail is faultless: from blowing on concrete block as a porosity test to seeing if the bracing is random enough in the handcast plaster fascias of the tiers. And so is his ability to provide complete sound isolation from extraneous noise (the Kennedy Center is situated directly under the flight path of National Airport) or to detail the construction of a hall so that not one ounce of sound energy escapes the volume of the hall. The concern verges on near fanaticism when he insists on three sound seals above every light fixture or when he can locate a slightly faulty joint in the return air system which is virtually inaudible to any ear but his.

But good acoustics are not necessarily born out of such concerns, since the very model for his own work, Boston's Symphony Hall, contradicts many of his firmly held principles. Based on its own predecessor as a model and built in 1900, the hall, while solidly constructed, is not completely free of extraneous noise. On the interior, the two long parallel walls are broken only by niches, statuary, shallow pilasters, and arches along the upper half above the second tier and these were certainly designed more as part of the prevailing style of architecture at the time than out of any acoustical concerns. The rear of the stage is largely taken up by an organ chamber and is anything but an unyielding, completely reflective surface. The coffered ceiling, parallel to the floor in the front half, contains openings for the ventilation system over 8 percent of its surface area, and the balcony fronts are constructed of an open iron grille work. Yet, Symphony Hall is considered by most to be one of the acoustically great halls in this country. Its sound is clear, warm, and rich, with adequate reverberation to enhance the sound without making it muddy. The only criticism ever voiced concerning the acoustics is that the orchestra's brass section is, at times, too bright.

By contrast, the sound of Harris's new hall has been described by the New York critics as "modern," a term that remains conveniently obscure and might be construed to mean just about anything. It is, no doubt, an effort in part to







## Avery Fisher Hall

distinguish the type of sound in the new hall from the older, turn-of-the-century halls with their warm, rich acoustics. For, in fact, the sound in the new hall is clear, precise, overbrilliant (a characteristic further exaggerated by placing the brass and percussion on risers) and definitely lacking any perceptible reverberant energy. A listener hears the full frequency range of direct sound from the stage—the bass line is strong, the inner voices come through clearly—but once the direct sound ceases, there is nothing left to grasp. In its clarity, this “modern” sound is cool, almost remote, and the slightest imperfection in attack or intonation on the part of performers is immediately apparent. It is not a hall which flatters sound but rather one which reveals it as it is, and there are times when the truth should be left unspoken.

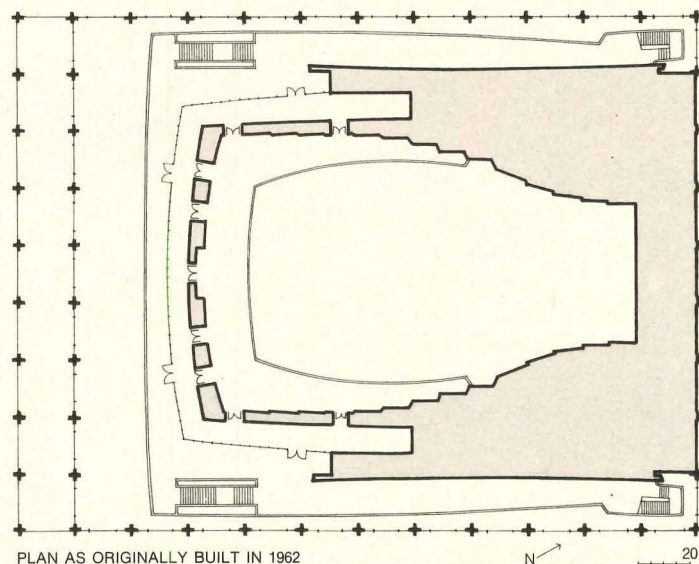
Although the new hall resembles its Boston model in the replication of the architectural attributes of good acoustics, the quality of the sound differs in some rather critical areas, for some rather obvious reasons. The overall length of the two halls is similar, as is the 660,000-cu-ft volume, but the new hall is 12 feet wider on the orchestra level and 14 feet wider between the tiers. The ceiling height is 6 to 10 feet lower than Symphony Hall but the seating capacity is more, (2741 in New York, 2631 in Boston) None of these facts creates a significant difference in itself, but as the audience area is the prime area of absorption in any hall, the seat construction and spacing can make a difference. Symphony Hall was built with a small seat spacing per person. Its 2631 seats, as well as the area occupied by the orchestra, constitute a total absorptive area of 16,600 sq ft. The New York hall with its 2741-seat and occupied stage area has a total absorptive area of a little over 20,000 sq ft. The ratio of the total volume to the absorptive area yields a figure which will give some indication of the relative dryness or reverberancy of a hall. The ratio for Boston is 39.9 (40.0 is considered optimum, although some acousticians would want it higher) The ratio of the new hall is closer to 32.25. The lack of increased volume in proportion to the increased absorptive area is one of the factors contributing to the lack of reverberant energy in the new hall, and to its consequent “modern” sound.

An analysis of the quantifiable sound qualities of a hall, and their reasons for being—however well-intentioned—will invariably lead one away from the more basic issues and questions which have to be raised. The acoustics of any hall play an essential part in determining the nature of the musical experience: it is ultimately within this context that any hall must be judged and will succeed or fail. One essential, but nonquantifiable, acoustical quality emerged when there was an opportunity to compare five performances of Mahler's Symphony no. 3 given by the New York Philharmonic in the space of six days under the baton of Pierre Boulez. The first three and the last one were given in the new hall; the fourth was given at Carnegie Hall to end the orchestra's Mahler Festival there. The two halls have some strikingly different sound qualities, but there was a dimension to the sound at Carnegie Hall which transformed that one performance into something more than the idiosyncratic interpretation of a piece of music by a particular conductor. A good hall acts much like an instrument in that

it shapes, gives body to, and supports the sound. In doing this, a hall creates a spatial dimension with sound in which the listener is, literally, seated. By contrast, this dimension was completely lacking in the four performances in the new hall. There was a flatness, a nondimensionality, to the sound; it seemed remote even though it was, at times, quite loud. The hall itself seemed to have no effect on the sound and, lacking that aspect, a listener is relegated to the role of a spectator.

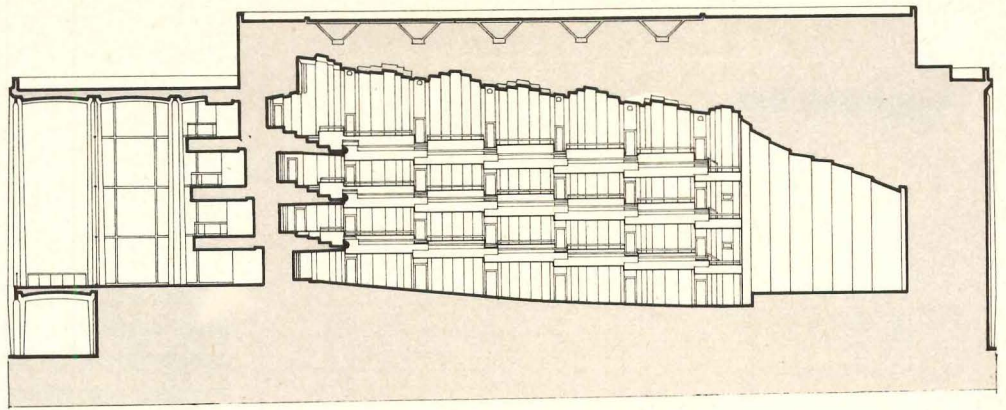
There are other considerations, in addition to acoustical ones, which contribute to one's total experience and impression of a space. On one level, the architecture has to take into account the ritualistic aspects of approaching, entering, and being in a place and provide clues about the nature of activities going on. On another level, the visual elements of a place—the forms, light, colors, textures, and details—create a general ambience and mood that affects, however subtly, the people in the space.

As to the style of architecture in the new hall, it bears about as much relationship to the façade which surrounds it as did any of its predecessors. Architects Philip Johnson and John Burgee, while constantly deferring to their “boss” acoustician Harris, can take full responsibility for the visual appearance of the hall. Its design vocabulary hints at the Art Deco style of the 1930s. The walls and ceiling, once to have been a cream white, are now a pale, glossy green; the seats are a light gold color; the three tiers are faced with gold leaf half-cylinders. The lighting consists of small round gold fixtures affixed to the ceiling, as well as rows of exposed filament bulbs, set on brass strips on the undersides of all three tiers. The stage end of this hall, unlike other recent halls of this type (or even Symphony Hall), is visually detached from the rest of the hall by a gold proscenium arch, as well as being finished with a medium brown wood paneling fastened to the concrete block with large brass studs. It was the architects' intention to make the orchestra *appear* closer to the audience and, while this is realized, it does present another, less desirable, visual phenomenon. Because there is a strong contrast in materials, the stage calls attention to itself in a way that allows

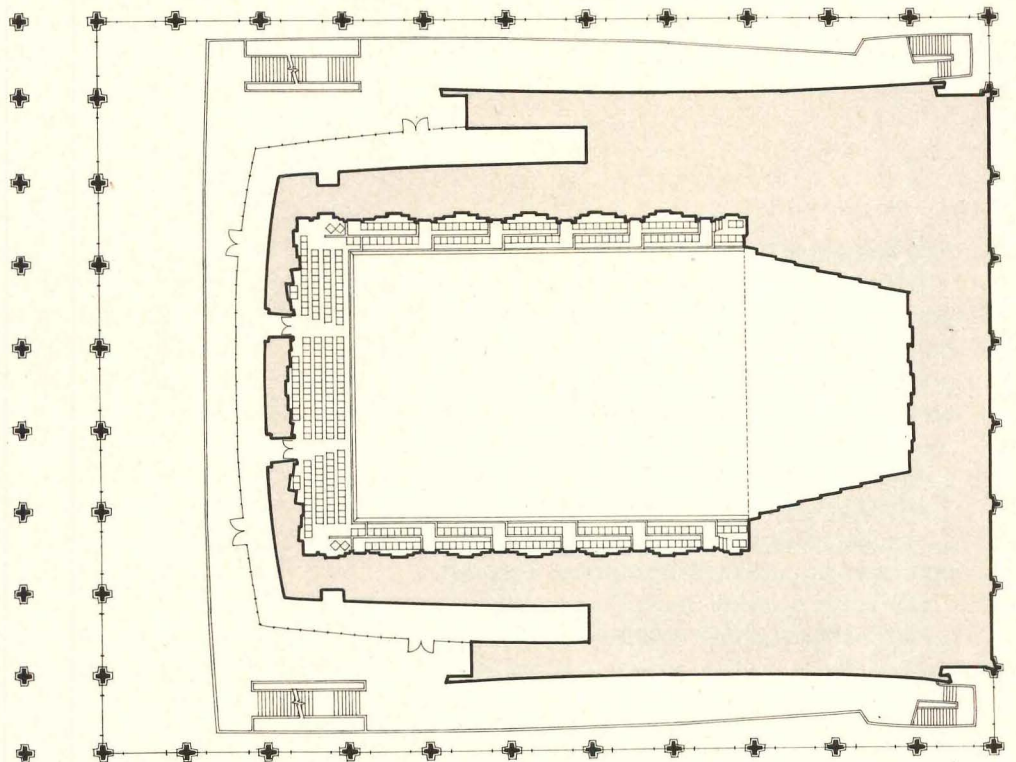


PLAN AS ORIGINALLY BUILT IN 1962

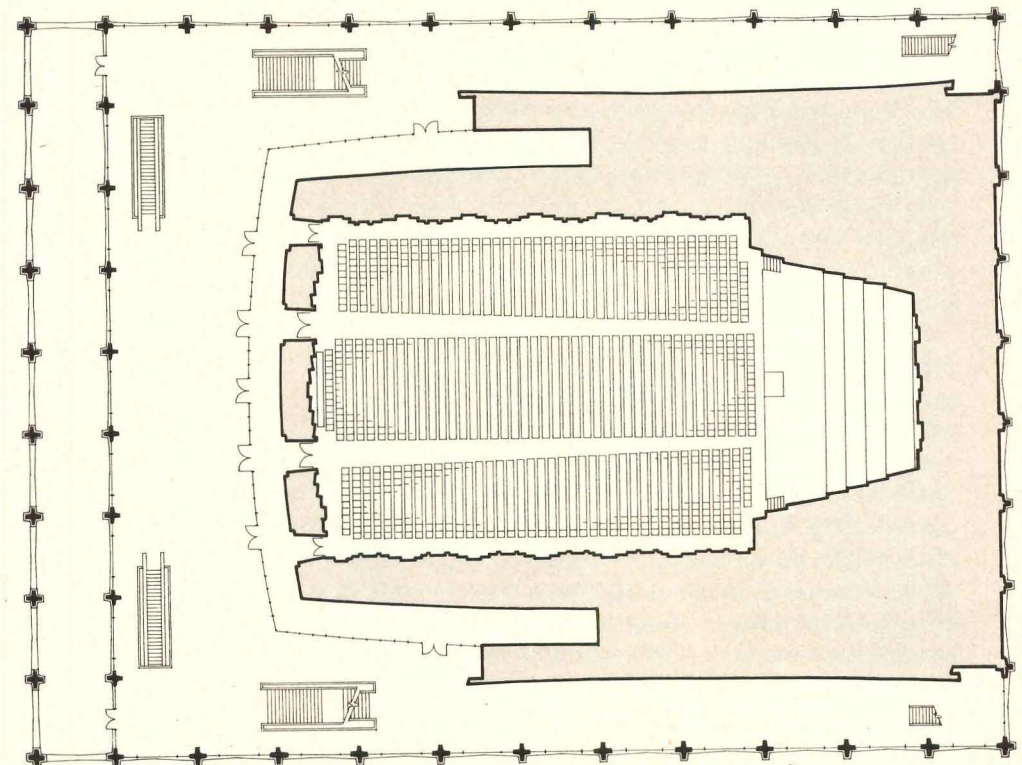




LONGITUDINAL SECTION



FIRST TIER



ORCHESTRA LEVEL



20'

The new hall has three levels of tiers (as compared to Symphony Hall's two levels). Seating in the rear of each of these tiers runs parallel to the rear wall and faces forward. In an effort to create the aura of boxes, both side sections of each tier have an elaborate system of entry (one door leads to the top row of one box, but to the bottom row of the adjacent box), but the seats are rigidly fixed in single rows and face across to the opposite side. To see the stage, one only need turn one's head, but to sit comfortably through a concert, one's whole body constantly struggles against the constraints of the T-square and triangle regimentation of the layout. It is obvious that the architects, in laying out the tiers, tried every possible means of organizing the seating and circulation with the objective of accommodating the greatest number of seats. Their success can be measured by the discomfort of the patrons, a circumstance further complicated in that there is not ample leg room between the seats and the low parapets of the tiers. As in other halls built according to Harris's model, there are some seats in the second rows of each tier with partial view only (the closer to the front and the higher up, the more exaggerated this becomes). Many subscribers who renewed their subscription before the hall opened were irate to discover their seats no longer commanded a full view of the stage.

The plan on the bottom of the opposite page is of the hall as it was originally built in 1962. The architects were Harrison & Abramovitz; the acousticians, Bolt, Beranek & Newman. This last renovation left only the façade and public circulation spaces surrounding the hall intact; everything else was gutted in order to rebuild the hall in a different shape. Curiously, the old hall was almost identical in dimension to the new, but the curvature of the walls created a perspective effect that made it appear much longer. In changing the shape of the hall, the backstage areas were also changed. The women in the orchestra finally got a large enough dressing room, but so ill lit and badly designed that the gesture was not exactly well received. Management got a new reception area for its executive offices and the box offices where finally moved up front, where they should have been in the first place.



## Avery Fisher Hall

only one visual focus in the hall.

As one enters, two things make an immediate impression—it is both large and bright. It is, in fact, not only too brightly lit, but too evenly lit prior to the start of the program. As the house lights are dimmed and the stage lights brought up, the hall, instead of looking like just a darkened room, takes on another aspect altogether. It has a much softer, more gentle ambience, more intriguing to the eye. The play of light on the faceted surfaces becomes more subtle and the shadows created by the overhang of the tiers make the extent of the hall less apparent.

Curiously, however, the hall's perceived size does not result from the fact that it is large, but rather from the fact that there is little to mediate between the scale of the volume and the individual scale of the people who occupy it. While the gold cylinders and the rows of lights underneath may have been meant as detail for the eye to dwell upon, these lights are, in fact, one of the most controversial aspects of the new design. Most people find them so aggressive that they are not likely to spend any more time than necessary looking at them. Apart from this one bit of unsuccessful texture, there is little for the eye to perceive except a vast number of people in what becomes a large room. It is a little like being inside a cardboard model which has been built full size, certain aspects are missing which the eye may not perceive when studying the model, but which are apparent upon its realization—a phenomenon characteristic of many works of modern architecture.

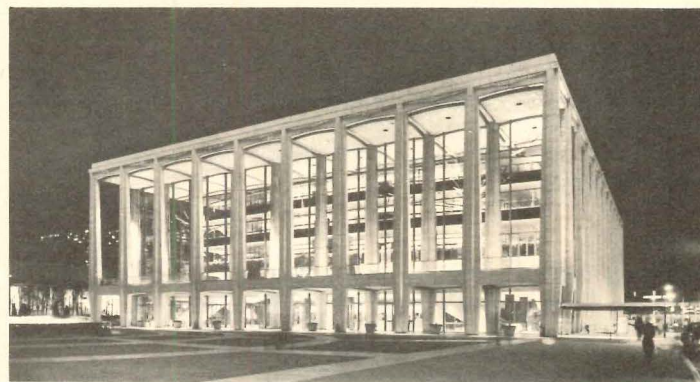
None of this is to suggest that the quality and success of older halls lies in the fact that they are more ornate architecturally or that, by virtue of their age, have acquired a certain aura of tradition. While both these aspects do play some role, modern architecture's failing, as illustrated by this space, is its obviousness; the inability to suggest without revealing, to allow the observer to discover subtle interplays of light on surface forms or relationship of parts to the whole. There is a certain obviousness, too, because of architecture's inability to create a set of spatial experiences which have more to do with psychic dimensions than with physical ones. The experience of ascending a grand staircase into a lobby cannot be realized if one is, instead, shepherded single-file onto a moving stair (the one at Avery Fisher inherited—not selected by Johnson and Burgee).

Attending a concert is an *event*. It should not be reduced to a level of banality by those things which should serve to make it that event, simply because they are expedient or economical (i.e. moving stairs or a high seating quota). In allowing this, we deprive ourselves of those less easily measured dimensions of our experience.

One of the nonacoustical and nonarchitectural qualities which emerged in the comparison of the Philharmonic's performances of Mahler's 3rd Symphony at Carnegie Hall and their own hall was the impact which the attitude of an audience had on the general ambience of the space. It can be so pervasive that even the best of design intentions or realizations cannot alter it. At the Carnegie performance, which ended a Mahler Festival there, the level of energy and anticipation could be sensed almost before anything happened. The ovation which Boulez received at the conclusion of that one performance bears testimony to the feeling which permeated the room. At the Philharmonic, the subscription audience is, at best, tolerant, often times rude, and seldom more than moderately enthusiastic. It is difficult, if not impossible, to get caught up in a musical performance while scores of old ladies say loud good-byes to their friends and walk out with their shopping bags in the middle of a piece.

With the best of intentions, we may assemble the pieces of the Symphony Hall model, expecting the new hall to sound, act, and feel like the original. We do not understand, however, what the architectural pieces symbolize, what other aspects they embody beyond the literalness of scattering sound or allowing people to move from floor to floor.

Regardless of our intentions in creating a place, the qualities of any place exist only as one experiences them. Those dimensions of sound and space, which contribute to any great musical experience and which imbue a physical place with its qualities of greatness, do not exist in the new hall. [Sharon Lee Ryder]



### Data

**Project:** Avery Fisher Hall, Lincoln Center.

**Architects:** Philip Johnson and John Burgee.

**Consultants:** acoustical, Cyril Harris; lighting, Claude Engle; graphics, Emil Antonucci; theatrical, Robert Brannigan Associates; structural, Ammann & Whitney; mechanical, Syska & Hennessy.

**Major materials:** walls, painted birch plywood on wood grounds in auditorium, natural finish European oak plywood on stage; floors, oak strip on sleepers; ceilings, 1 1/2-in. high-density plaster. Lighting, custom designed spheres. Auditorium seating with acoustically treated upholstery. Carpet runners in aisles.

**Costs:** \$6.5 million.

**Photography:** Norman McGrath/Ambrose.





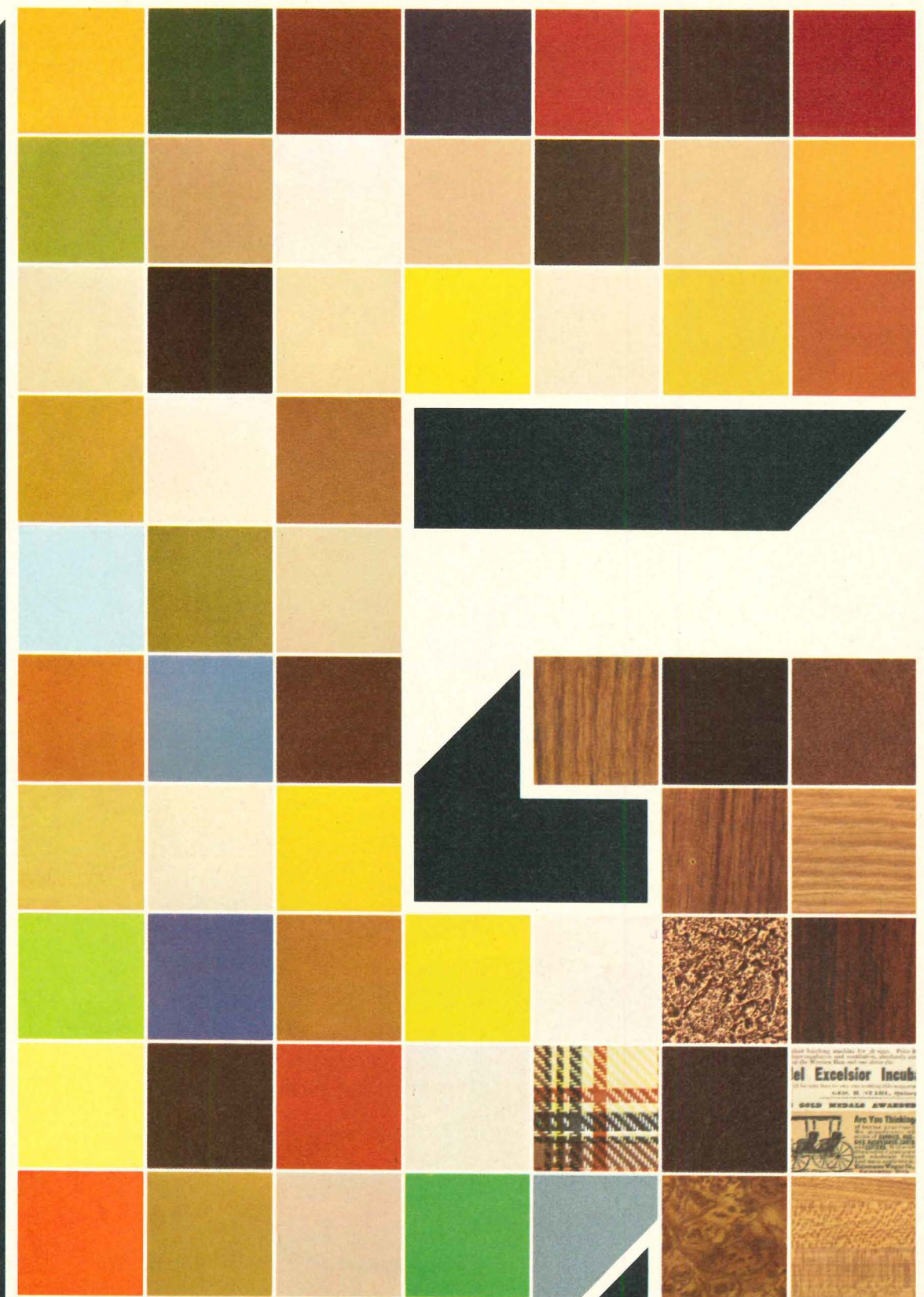
One of the principal concerns of the orchestra and its management was that members of the orchestra be able to hear themselves on stage, which they had been unable to do since the hall opened. Players comment that this has been accomplished; they feel they have to force less to get sound out into the hall. Harris spent many hours on stage during rehearsals in the old hall and many hours talking to musicians to determine desired characteristics. While the orchestra may now be content with its acoustical setting, this may have been achieved at some sacrifice of what the audience hears.

To provide proper acoustical balance on stage, walls and ceiling plane must scatter the middle and upper frequencies, and they must be close enough to the source to avoid substantial delay. In order for the actual ceiling plane to serve this purpose, it must be kept low over the musicians. The alternative, a canopy or series of reflectors over the orchestra, reflects mid to high frequencies yet allows the actual ceiling to be higher, giving the lower frequencies an increased volume—above the reflectors—in which to develop reverberant energy. By avoiding the use of reflectors (many of the shortcomings of the original hall were, unfortunately, attributed to its reflective "clouds") Harris had to keep the ceiling over the stage too low for optimum development of reverberant energy.





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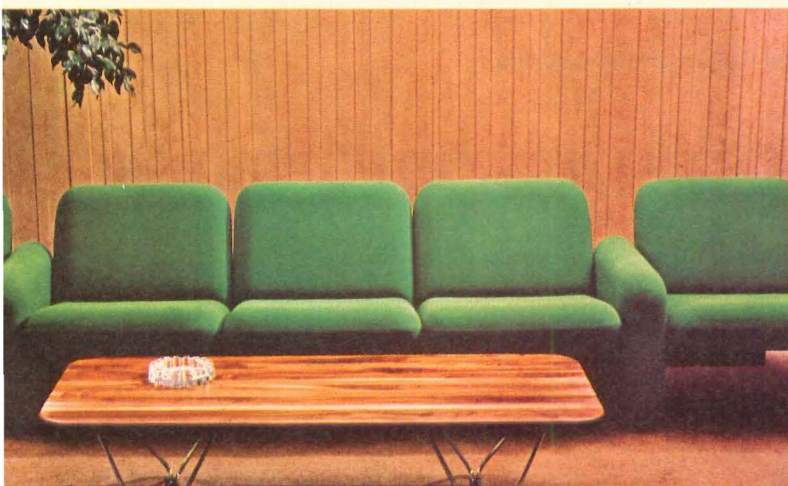
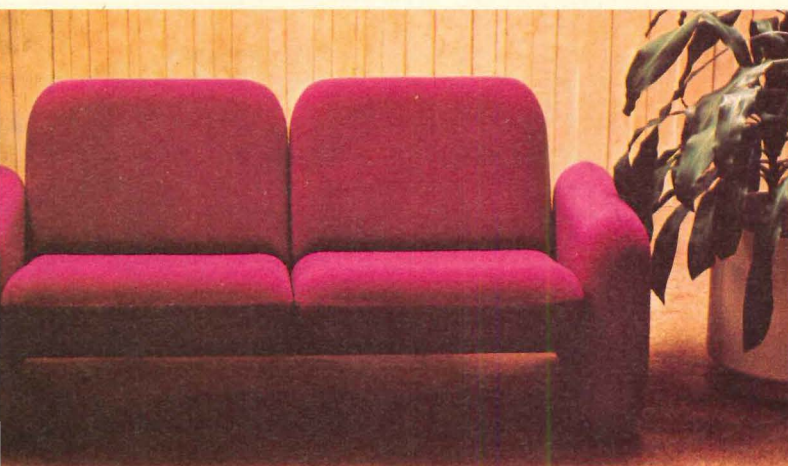


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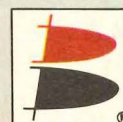
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# The overhead that works for you

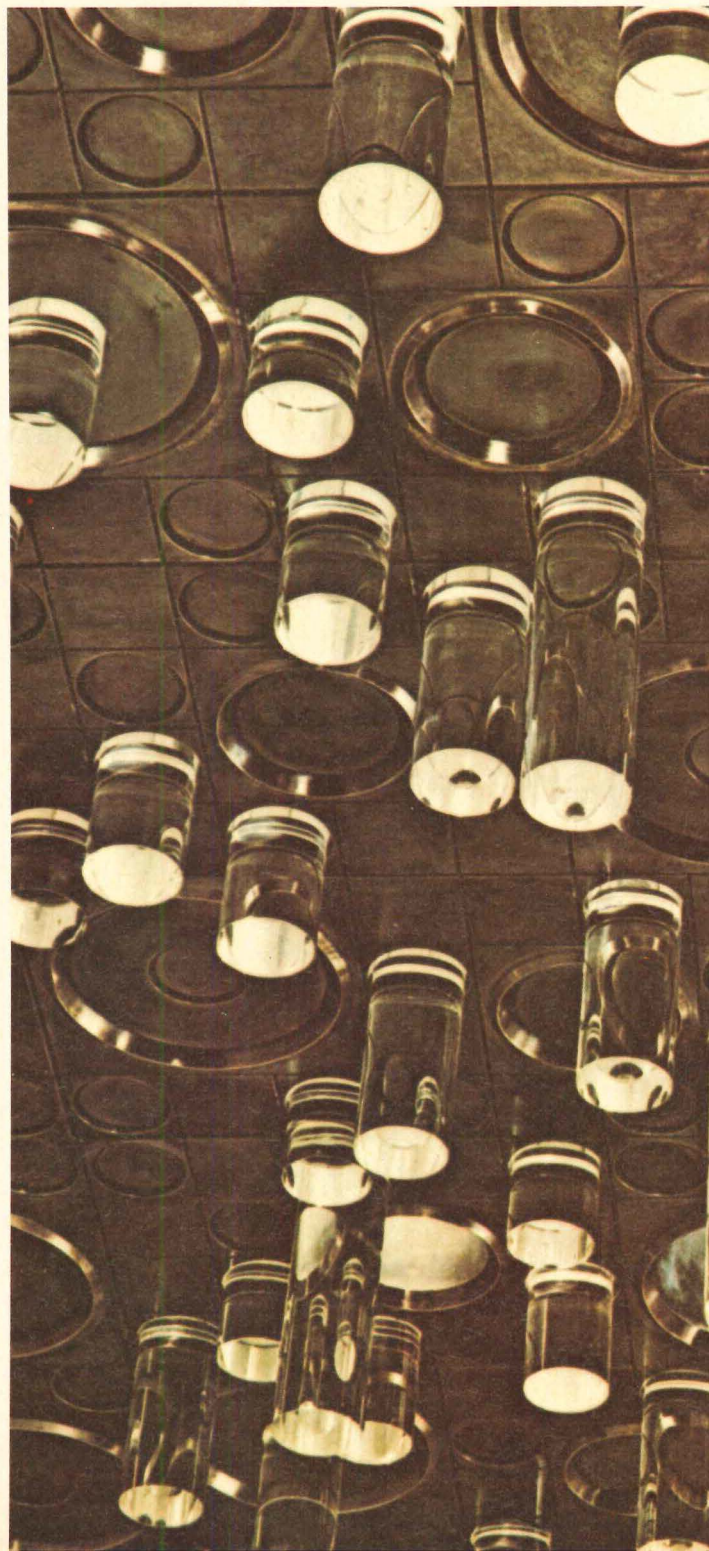
**Away with the old obtrusions. There's a delightful design freedom when lighting, air distribution, and other functional elements can be integrated in the ceiling itself. Here are the materials you can use.**

A popular song of some three decades ago had a love-struck dreamer musing: *She dances overhead / On the ceiling by my bed. . . .*

Architects have not quite caught up with Tin Pan Alley. But a dance floor is one of the few remaining uses they have failed to find for the ceiling. Reversing the cue from the trader who carries his business under his hat, they have installed many essential building services over the hat—more accurately, made them part of the hat. In this they have been aided by the producers of building products, who have provided them with a staggering, even bewildering, array of ceiling products.

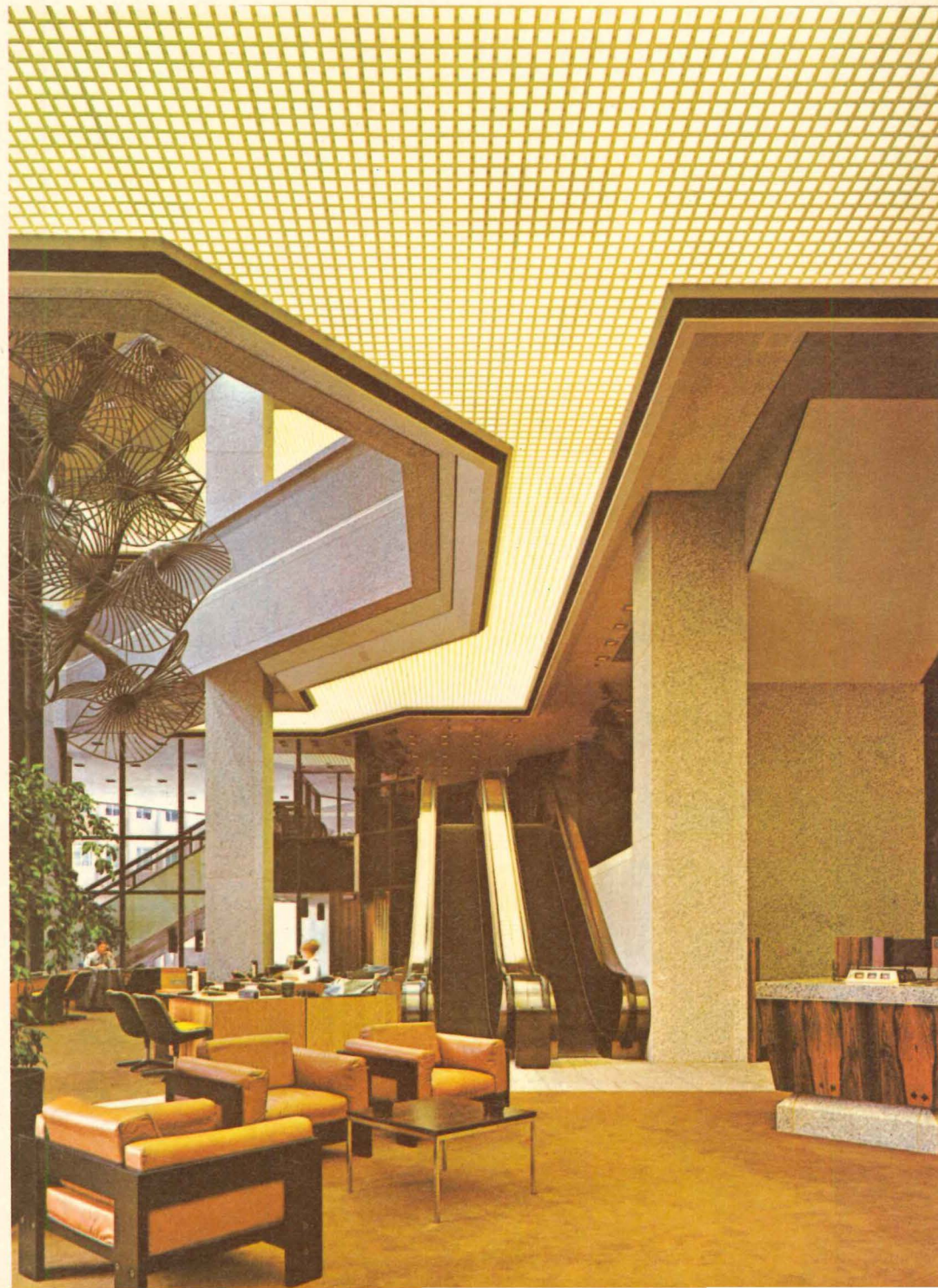
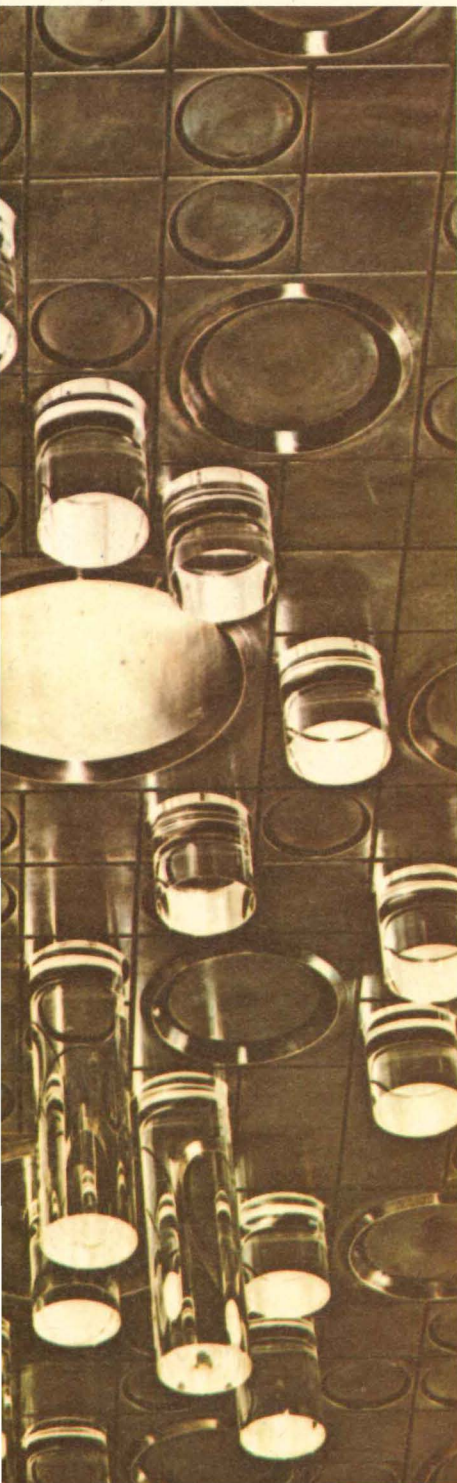
It's not just an acoustical ceiling that you see. It's a ceiling system. Yes, it does cover the room. Yes, it is attractive, maybe strikingly so. But besides providing a lid for the room and acoustical control, it also works with the plenum above it to provide lighting, air distribution, fire protection, thermal insulation, and energy conservation, and is part of the power and telephone distribution systems, as well as the public address and other sound systems. Not every ceiling system incorporates all of these, but it may.

The word "system" is often used broadly, and not only in the buildings field. It implies a combination of parts that work together. In the building products field, it also usually implies modularity, flexibility, and the interchangeability of components, created in the factory rather than in the field. But one man's system is another man's subsystem. For example, makers of the metal suspension grids that support ceiling tiles and panels refer to their product as a system, and it is. Architects may design a ceiling consisting of the components of several manufacturers and call it a system, and it is. But in its most sophisticated form, a ceiling system is a factory-engineered, integrated assembly that combines at least suspension, acoustic tiles and panels, lighting, and air distribution; one source is responsible for the entire system and one contractor is responsible for its installation, appearance, and performance. In this article we shall deal





Variations in 1'x2' aluminum-pan modules give lighted ceiling (opposite) a nonmodular look. Decorative lighting is provided by acrylic rod lenses; downlights provide functional lighting. Factory cutouts, either 2½", 5" or 7", provide openings for lighting, air diffusers, sprinklers, sound system. Installation is at Southern California First Federal Savings & Loan Assn., Santa Ana; design is by Design Center Interiors. Luminous ceiling (below) is also on 1'x2' module. Each module contains 18 acrylic cubical louvers, 4" on center. Flat acrylic diffusers over the louver panels conceal the plenum. Supply air is furnished by perimeter air diffusers. Installation is at Security Pacific National Bank, Los Angeles. Architect, William L. Pereira Assoc. Both ceiling systems from Integrated Ceilings, Inc.





## Technics: Ceiling systems

Sandstone-color acoustical tile from U.S. Gypsum blends with powerful wood beams (right) at C F Industries, Long Grove, Ill. Architect, Envirodynamics. The unusual contoured ceiling (below) of Ocala Municipal Auditorium, Florida, has coffers on 5'x5' modules. Air distribution is through the regressed grid system. Spotlights are mounted on electrified track. Acoustical tile in the coffers controls gymnasium noise. System is by Ceiling Dynamics. Architect, Hal Thomas Reid.







Air diffusion and return in school library are through 3"-wide grid runners. Mineral board acoustic-faced cove runners have 2-hr fire rating. System by Donn Products.



Ceiling and window design are integrated in cafeteria of Sayville (Long Island) High School, with runners and mullions having the same width and regress. Coffers are 4' square, custom-made to 1' depth, providing large acoustical panel surface to absorb noise. Luminaires are 2'x2', with fluorescent U-lamps. Slots in runners provide air diffusion. Ceiling Dynamics system. Architect, Frederick E. Allardt, Jr.

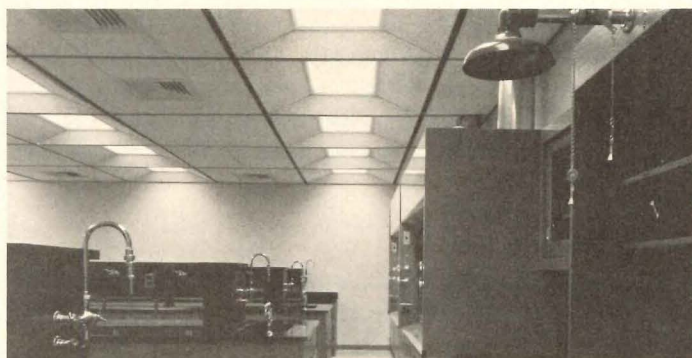
mainly with factory-engineered, integrated systems.

Among the benefits of the systems approach is that the various components (subsystems) have been married by the producer, who has tested and can guarantee the acoustic, lighting, air handling, and fire-resistive performance of the system as a whole. It's no secret that the laboratory performance of individual components is often only an indication of how they will perform separately when installed in the field.

Although the materials cost for the integrated system may well be higher than for individual components bid separately, the saving in installation time and labor will almost certainly make the total cost lower. And the quality of the pre-engineered job will probably be higher. Because of its integral design, the ceiling surface is able to preserve the purity of the architect's original concept. There is no need to disrupt the ceiling pattern for, say, the air conditioning system, since provision for accessory functions is built in.

The rapid development of ceiling system technology has both nurtured and has been nurtured by the trend to the open-plan or landscaped office. Implicit in the open plan is the ability to change work stations and layouts as circumstances require. This in turn requires the flexibility to relocate lights, air distribution, and other services with a minimum of disruption and cost. Integrated ceiling systems make this easy; modular ceiling components may be shifted from one position to another or rotated as needed.

The speculative builder of office and commercial structures also benefits from integrated ceilings. Whether he is renting to a full-floor tenant or a number of smaller tenants, he need not wait until the full floor is rented before finishing the floor or be forced into the expensive practice of finishing each small segment as it is rented. Instead he may give himself a head start by finishing the perimeter walls and installing the ceiling system and carpeting. As space is rented, he installs the required dividing walls and partitions (in some systems these are attached to the ceiling suspension grid). Lighting and other service modules in the ceiling are relocated as required. With this type of procedure, the builder has a more attractive space to show prospective tenants and is able to move them in and start recouping his investment more quickly. He will just have to love the architect who recommends it to him.



Grilles in integrated ceiling of chemistry lab (above) provide for rapid exhaust of fumes. Donn Industries system. What looks like four-light clusters in Ceiling Dynamics system at Portland Gas & Electric (below are actually a pair of 2'x4' modules, reducing wiring by half.

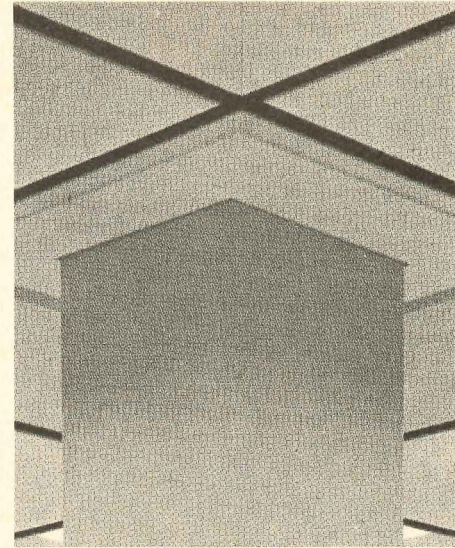
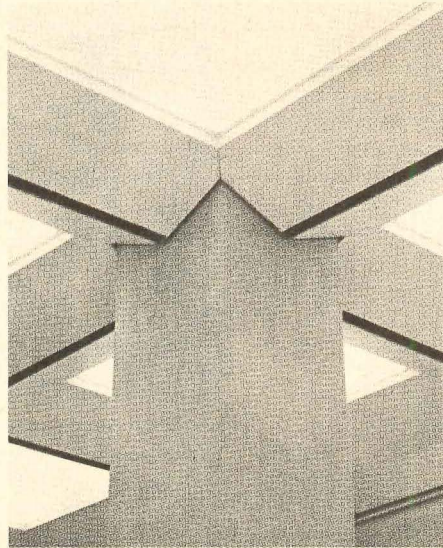


Architects Pepin Associates designed the ceiling system for their Bloomfield, Conn., offices with a Wiremold overhead distribution system for electric service. Pole at right brings power from raceway over ceiling. Telephone distribution may be handled with a similar arrangement.





## Technics: Ceiling systems



Two ways of handling intersection of coffer modules with columns are shown in these photographs of Day-Brite Compac installations.

A survey of manufacturers' literature shows too many variations, in design or performance or both, between competing products to permit a detailed comparison here. The literature itself is the best source for this information. However, some general observations about system components are in order.

### Suspensions

The skeleton of the ceiling system is a steel or aluminum grid hung by wire from the building structure. The grid consists of main runners and cross runners, mechanically locked together (each manufacturer has its own nomenclature for these elements and its own locking design). The main runners provide the system's primary support—for the cross runners, lighting fixtures, air diffusers, acoustic tiles and panels, and so on. The cross runners contribute rigidity to the system and usually support only the acoustic material, although in some systems they also support lighting and air diffusers.

The runners are spaced to form regular modules, usually 60" x 60", although other module sizes are also available. The main modules may be divided into sub-modules by additional runners. One company suggests that a 48" x 48" module makes better economic sense than the standard "60 x 60", since this meshes better with the standard dimensions of many building products.

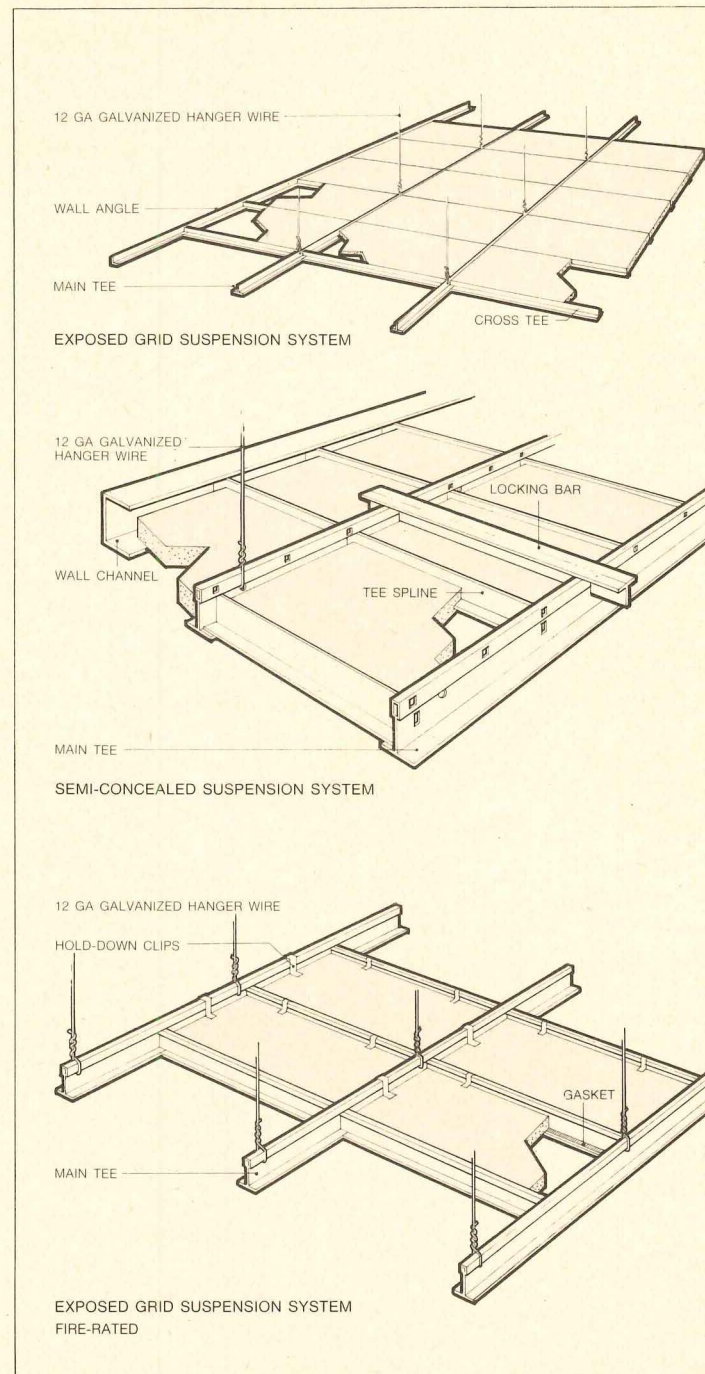
In an exposed grid installation, the acoustic panels are laid in on the flanges of the runners; in a concealed installation, the edges of the panels are kerfed or rabbeted (slotted) so they slide over the flanges and butt against each other, giving the ceiling a monolithic look. Runners for exposed grid ceilings may have a regressed profile; this often provides a striking visual effect.

The runners may be slotted, providing an outlet for the diffusion of conditioned air to the occupied space. Manufacturers provide various ways of controlling and directing the air flow through these bars.

All systems allow access to the plenum without damage to the ceiling tile or panels.

### Tiles and panels

In addition to providing visual beauty, acoustic ceiling materials are designed to absorb the sound that is reflected off





the hard surfaces of a room and to attenuate the sound that might be transmitted through the ceiling and plenum to adjoining offices and areas. Absorption ability of the material is expressed as the Noise Reduction Coefficient (NRC) and attenuation value as the Sound Transmission Class (STC).

The materials are also tested and rated for fire safety. The Flame Spread Index is a guide to the flammability of the tile or panel and the Fire Resistance Index a guide to an assembly's time rating—how long it resists the penetration of heat and flame from a fire to other members.

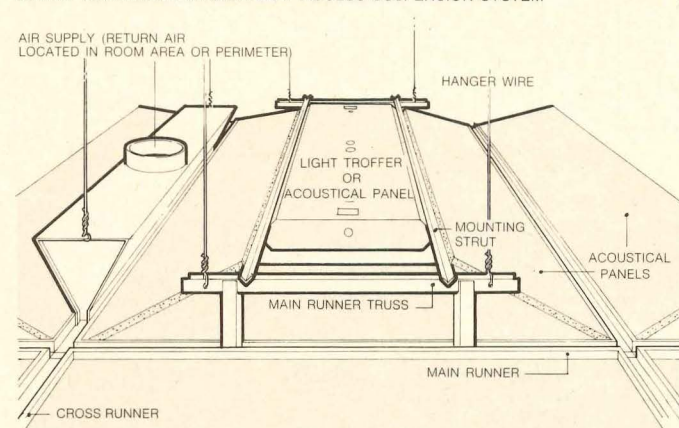
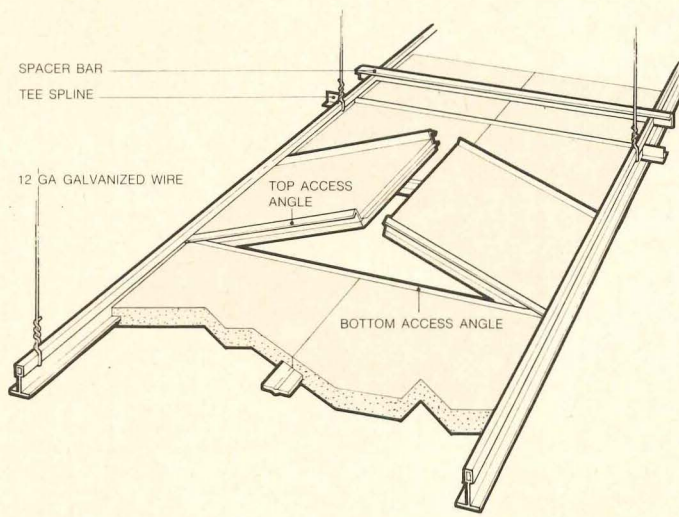
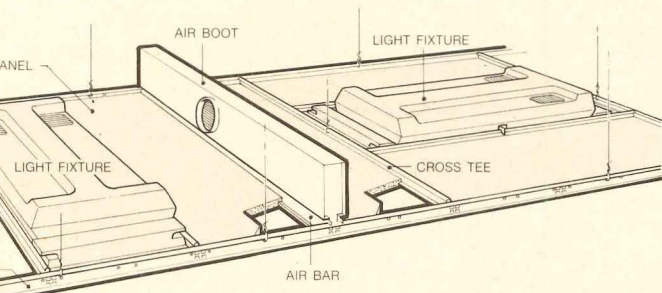
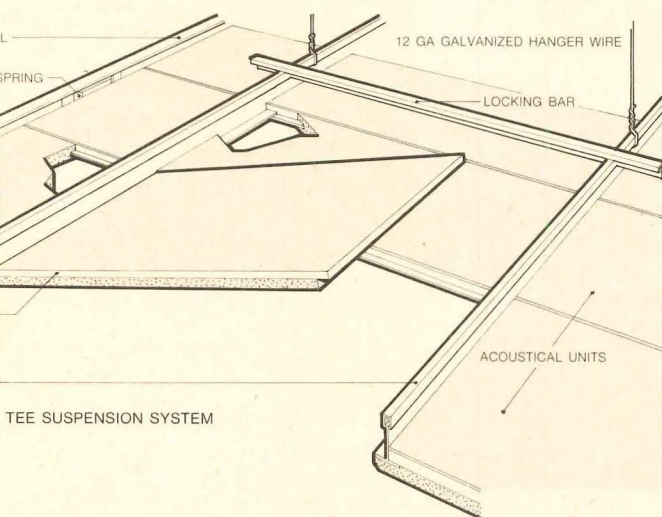
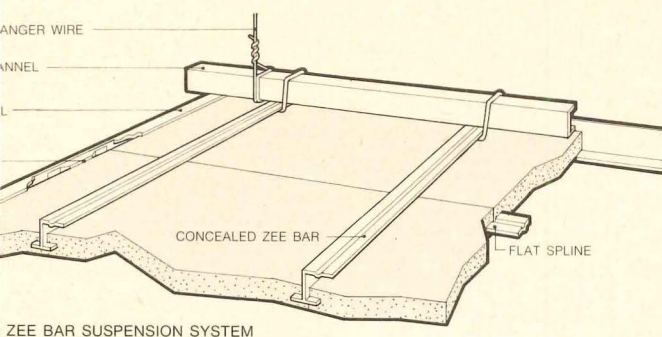
Light reflectance (indicated by LR value) of the ceiling has a bearing on the required lumens from the lighting fixtures for eye comfort, so it affects lighting design and power requirements.

Effective thermal insulating qualities can lower heating and cooling costs by lowering the flow of heat in and out of conditioned spaces. The material's performance is indi-

cated by C value (Thermal Conductance) or R value (Thermal Resistance). Manufacturers publish the various values and coefficients, established by test, in their literature.

Tiles and panels are usually made of bonded mineral fiber, fiberglass or metal facing with an insulating core (for high-humidity areas). Special face treatments are available, such as vinyl for easier washability, ceramic for impact and humidity resistance, and mirror finish. Also available are a variety of textures and patterns (directional or random) and colors. Many units have reveal edges, which drop the tile below the grid surface and produce an attractive ceiling pattern. Standard sizes range from 12" x 12" to 24" x 60" in various thicknesses, but consult the manufacturer's literature for the sizes in which specific tiles and panels come.

Some manufacturers offer an unusual style of integrated ceiling system, whose panels are steel or aluminum pans about 4 in. across and up to about 15 ft. long. Obviously,



Details of typical suspension systems are shown in these sketches from Johns-Manville; specific details and nomenclature will vary from manufacturer to manufacturer. Typical installations of lighting fixtures and air components are shown for a flat ceiling, left (Armstrong Cork), and a coffered ceiling, above (Ceiling Dynamics); again, each maker's system is different.



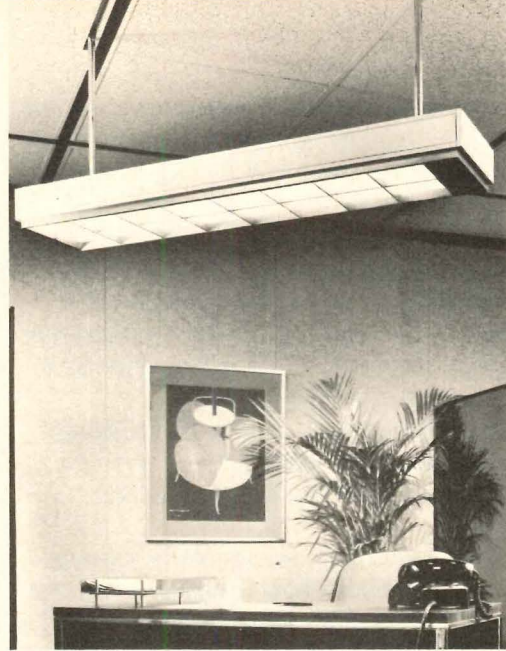
## Technics: Ceiling systems

the suspension system and grid module size for this type of panel is different from the conventional. Another unusual panel is gypsum board with radiant heating cable embedded in the material.

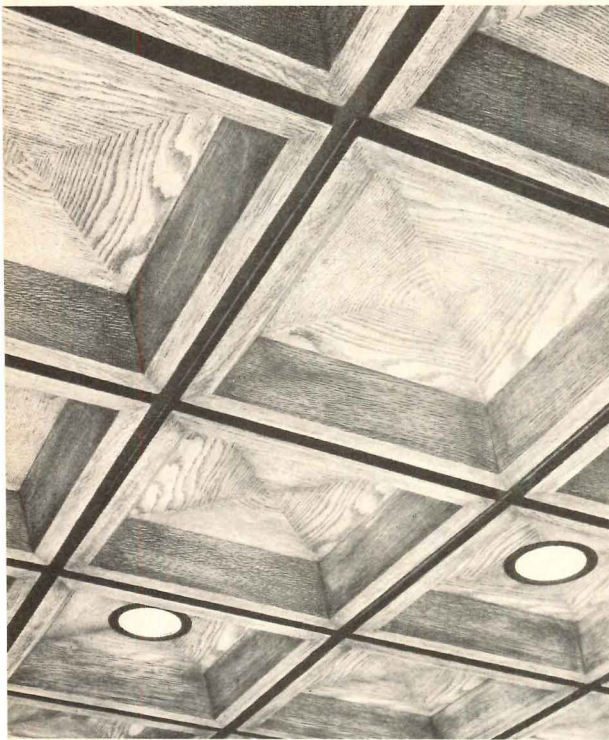
### Ceiling planes

Flat ceilings are simpler and less expensive, but coffered or vaulted-panel ceilings lend themselves to more dramatic treatment. Some architects use both styles within a space to boldly signify a difference in function between adjacent areas. Coffers are available in various depths. Where plenum depth is limited, it is necessary to design either a flat ceiling or one with a shallow coffer if access to the systems above the ceiling is desired.

The acoustic treatment of coffers containing luminaires



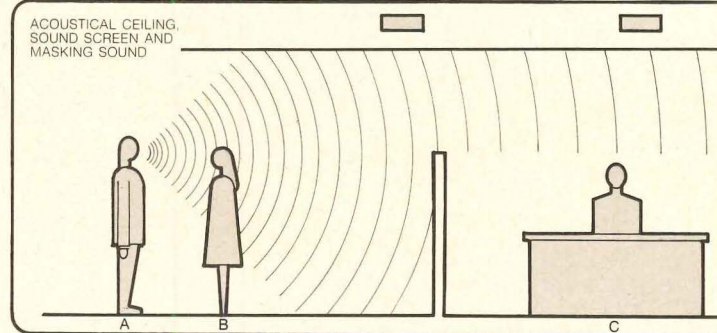
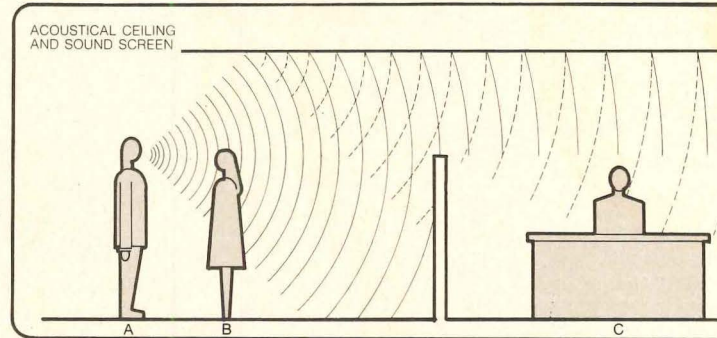
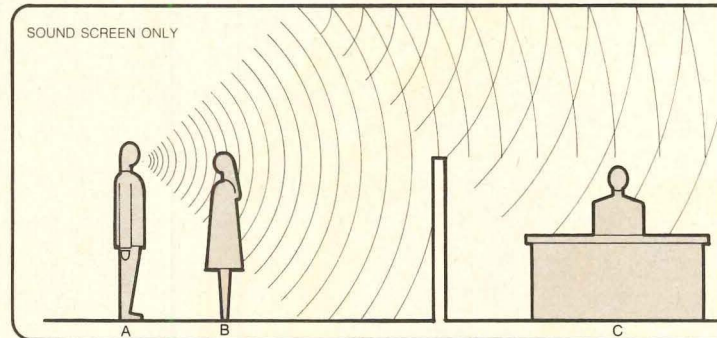
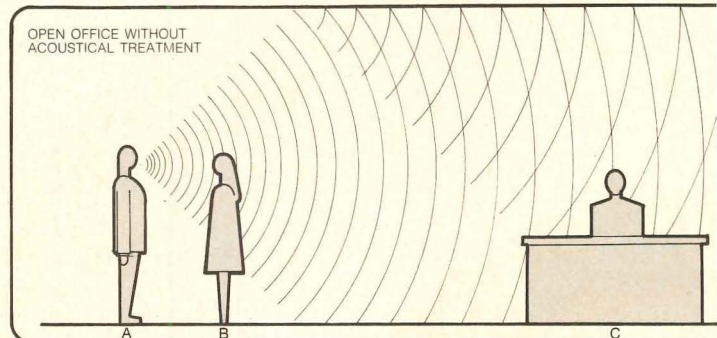
Pendant lighting fixture in Armstrong Cork is suspended from trifurcated track. Its position may be shifted to improve task lighting.



Simulated wood coffers in Integrated Ceilings system are sound reflecting. Incandescent downlights and public address speakers may be set in any coffer. Air diffusion is provided by linear air bars on perimeter or in utility strip dividing coffer sections into bays.



Guion Creek Elementary School library, Indianapolis, combines flat and Conwed coffered suspended ceiling. Coffers are perforated metal, with 1" acoustic insulation. Architect, James & Associates. Effect of various acoustical treatments on speech privacy in open-plan offices is shown in these Owens-Corning Fiberglas sketches. Complete treatment requires help of ceiling, screen (partition), and masking sound.





requires special consideration, because of the sound reflectance off the luminaire's hard surfaces. Coffers are made of a variety of materials, including metal, molded fiberglass, mineral fiber, and plastics. Various finishes and surfaces are available, including simulated wood.

### Luminaires and lighting

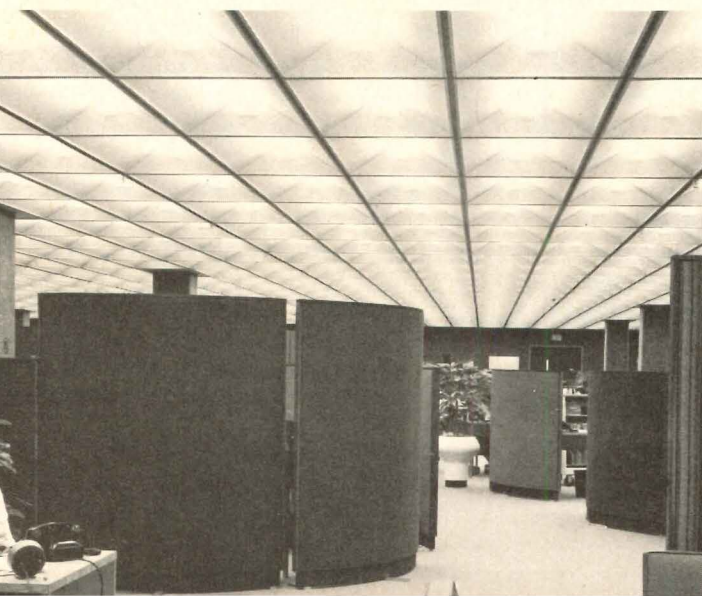
There are probably more lighting variations available (luminaires, diffuser lenses and grilles, light sources) than any other element of ceiling systems. Many luminaires are designed specifically for particular ceiling systems.

Lighting installations may be flush with the ceiling plane, recessed, projecting or suspended, bare or covered with a diffuser lens. In coffered installations, characteristics such as Visual Comfort Probability should be known for the full module, not just the luminaire.

Architects have almost unlimited freedom in the place-



like sloped ceiling of snap-in aluminum panels carries sound evenly  
ck of Three Tuns School auditorium, Fort Washington, Pa. (above).  
s by Alcan Building Products. Architect, John Carver Associates.  
e of earliest landscaped offices, in Purdue U. Administrative  
ces Bldg. (below), luminaires supply lighting, acoustic control, air  
ion. System by Armstrong. Architect, Walter Schole & Assoc.



ment of lighted modules. For example, a checkerboard pattern, alternate rows of the grid, suspended fixtures that, as part of a system's option, can be positioned at almost any location or angle to the ceiling grid, or by filling an entire surface to create a luminous ceiling. A different type of luminous ceiling is obtained by installing any of a large variety of diffuser grilles, louvers, or lens panels under the ceiling light sources.

Some luminaires are designed to be part of the air distribution system, channeling air from the occupied space back to the plenum. The return air picks up heat from fixtures, prolonging the life of the light source. In the heating season, the warmed air can be used to reduce the demand on the heating system.

### Air distribution

Within the scope of this article, only a general description of how air distribution is handled by integrated ceiling systems is possible. Chilled air is ducted to boxes called air boots or terminal boxes which are mounted over slotted or perforated air bars (part of the suspension system). The air is discharged through the bars into the occupied space. The direction of its throw may be adjusted from below the ceiling; similarly, sections of the air bars may be sealed or opened, as required. Return air is brought back into the plenum either through other air bars, the luminaires, grilles, or the perimeter. Thermostats monitor the return air's temperature and control the supply of chilled air to the bars that they are monitoring.

The boots may be moved if the space layout is changed, or their number may be increased or decreased. In a speculative building, their purchase and installation may be delayed until the space is rented.

### Utilities distribution

The complete electrical distribution system may be incorporated in the ceiling. A cable system is installed on the suspension grid, with periodic outlets and receptacles conveniently located for connection to the luminaires, air boots, etc. Power is brought down to the occupied space through poles which are attached to the suspension grid. Telephone distribution is handled in a similar way. This technique is especially desirable in open-plan offices.

If there is one problem with integrated ceiling systems, it is the tremendous number of options they offer. But this is another way of saying they offer tremendous design freedom. In other words, a welcome problem. [Henry Lefer]

### Acknowledgments

We wish to thank the following companies for their help in preparing this article: Air Factors Co., Alcan Building Products, Armstrong Cork Co., Carrier Air Conditioning Corp., Ceiling Dynamics, Inc., The Celotex Corp., Chicago Metallic Corp., Construction Specialties, Inc., Conwed Corp., Day-Bright Lighting Div. of Emerson Electric Co., Donn Products, Inc., Electro-Connect Div. of Emerson Electric Co., Electro-Products Div. of 3M Co., Gold Bond Building Products Div. of National Gypsum Co., Howmet Aluminum Corp. Southern Exterior Div., Integrated Ceilings, Inc.

Also, Johns-Manville, Owens-Corning Fiberglas Architectural Products Div., Polrized Corp., H. H. Robertson Co., Roper Eastern Building Systems, Scientific Lighting Products, Sound Block Div. of Emerson Electric Co., Steel Ceilings, Inc., United States Gypsum, Wilson Research Corp., The Wiremold Co.

[For information about ceiling systems products, see literature page 96.]



# Should architects advertise?

Bernard Tomson and Norman Coplan

**Advertising by professionals has always been restricted by their codes of ethics. However, many professional associations are changing their views on this subject.**

Whether advertising by professionals should be permitted, and if so, to what extent, is a topic of current concern and controversy. The American Institute of Architects is one of several professional associations which is rethinking its views and ethical standards on this subject.

Much of the impetus to this discussion stems from legal pressures and actions of the United States Justice Department in seeking to restrict certain professional practices. This activity on the part of the Department of Justice has increased since the decision of the United States Supreme Court in 1975 in *Goldfarb v. Virginia State Bar* (See "It's the law", P/A, Dec. 1975) (in which case the court held that the legal profession was not exempt from the anti-trust laws) and culminated in anti-trust actions against some professional groups, including the American Bar Association. These actions have obvious significant implications for the architectural profession.

The action instituted by the Department of Justice against the American Bar Association is for the purpose of compelling the ABA to eliminate restrictions on advertising by lawyers which are contained in its Code of Professional Responsibility. It was particularly upsetting to the American Bar Association to be subjected to the suit instituted by the government in view of the fact that following the *Goldfarb* case in 1975, the Association had, to a degree, liberalized its Code in respect to advertising and had the subject under further study at the time the suit was instituted.

It is the claim of the Government in the ABA suit that restraints on advertising reduced price competition among lawyers to the disadvantage of the general public and that such restraints, therefore, violate the anti-trust laws of the United States. The American Bar Association, however, contends that its Code of Professional Responsibility is not self-enforcing and merely constitutes a recommendation to the 50 state bodies which are responsible for the regulation of lawyers. These state bodies are not subject to the anti-trust laws of the United States, and it is argued that the attempt to compel the Association to modify its Code consti-

tutes an invasion of the constitutional rights of the members of the ABA to assemble and to petition the respective state authorities. In support of this argument, the Association points to the decision of the United States Supreme Court in *Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, in which the Court stated:

"To hold . . . that the people cannot freely inform the government of their wishes would impute to the Sherman Act (Anti-Trust Act) a purpose to regulate, not business activity, but political activity, a purpose which would have no basis whatever in the legislative history of that Act. . . . The right of petition is one of the freedoms protected by the Bill of Rights, and we cannot, of course, lightly impute to Congress an intent to invade these freedoms."

Professionals who oppose liberalizing the rules in respect to advertising are concerned that the cost of advertising would create the greatest hardship on the newest members of any profession and might result in a concentration of the profession and a reduction in individual practitioners or small firms. They also express concern with the possibility of misleading, deceitful, and exaggerated claims and point out that there is no agency equipped to supervise or monitor the advertising of professionals. The President of the American Bar Association points out that the efforts of his Association "to encourage the states to improve professional discipline have barely reached a level that enables it to deal appropriately with gross misconduct, let alone policing the subtleties of lawyers' advertising claims." This same comment could as well be made concerning the architectural profession.

Although there are common problems and considerations in all professions relative to the subject of advertising, there are also significant differences between the professions. For example, the United States Supreme Court in 1976 voided a Virginia statute which prohibited advertisement of the prices of prescription drugs on the ground that there was no true professional service in connection with such drugs and that the restriction against advertisement in this case violated the First Amendment of the Constitution. There are few services rendered by architects which could be classified as routine or nonprofessional to which this rationale could apply.

Representatives of the American Bar Association have indicated that some advertising may be necessary in connection with the delivery of legal services to low-income groups in order to make them aware of the availability of such services. The success of prepaid legal service plans or legal clinics may depend upon the knowledge of the public as to their availability, which perhaps can be best accomplished through advertising. Again, however, this rationale would appear to have no particular application to the architectural profession.

The issue of advertising by members of the architectural profession is a difficult and complex one involving both ethical and economic questions. The threat of legal intervention by the United States Department of Justice will not make its resolution any easier. □



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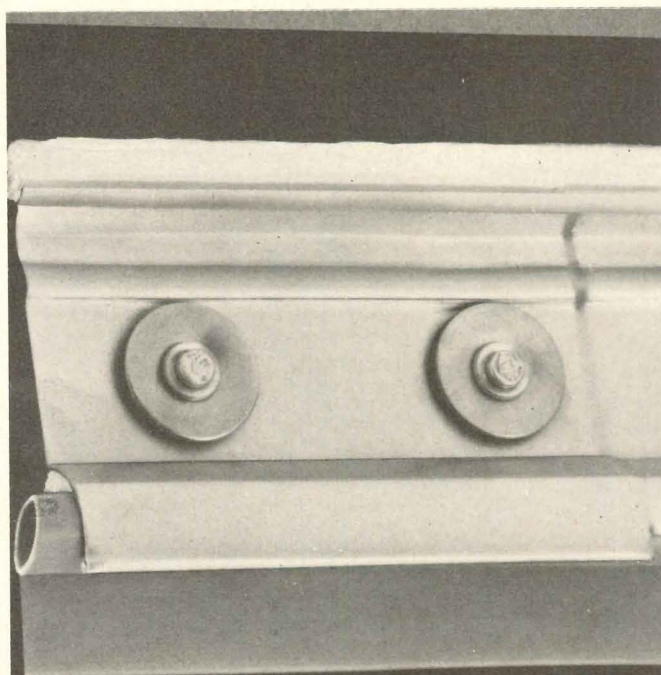
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Photograph of boardroom, George Beach, Inc. Philadelphia, Pennsylvania.





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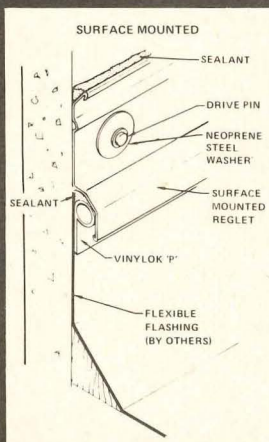
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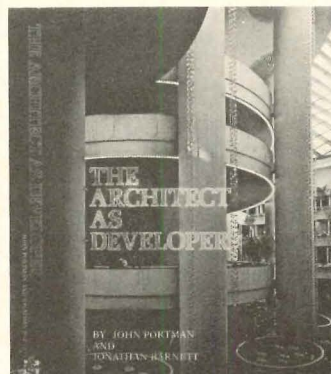
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## Books

# New releases



**The Architect as Developer** by John Portman and Jonathan Barnett. New York, McGraw-Hill, 1976. 198 pp., \$22.95.

Starting with his revolutionary Atlanta Regency hotel of 1967, whose 23-story lobby attracted worldwide attention, John Portman has created new kinds of urban environments not only for hotels but in multi-million dollar downtown developments for San Francisco, Detroit, Los Angeles, and his native Atlanta. This new book shows how Portman's integrated approach allows design decisions to be made with full understanding of their effect on both project cost and marketability. In the first part, Jonathan Barnett tells how Portman went from a one-man office in 1953 to his position today; in the second part Portman describes the principles that underlie his design; and in the third part Barnett explains how the Portman organization works, and the seven areas of real estate development that an architect must understand if he wishes to control the design-development process. The book is amply illustrated with photographs and drawings of the major concepts described.

**Building without Barriers for the Disabled** by Sarah P. Harkness and James N. Groom, Jr. New York, Whitney Library of Design, 1976. 79 pp., paperback, \$10.95.

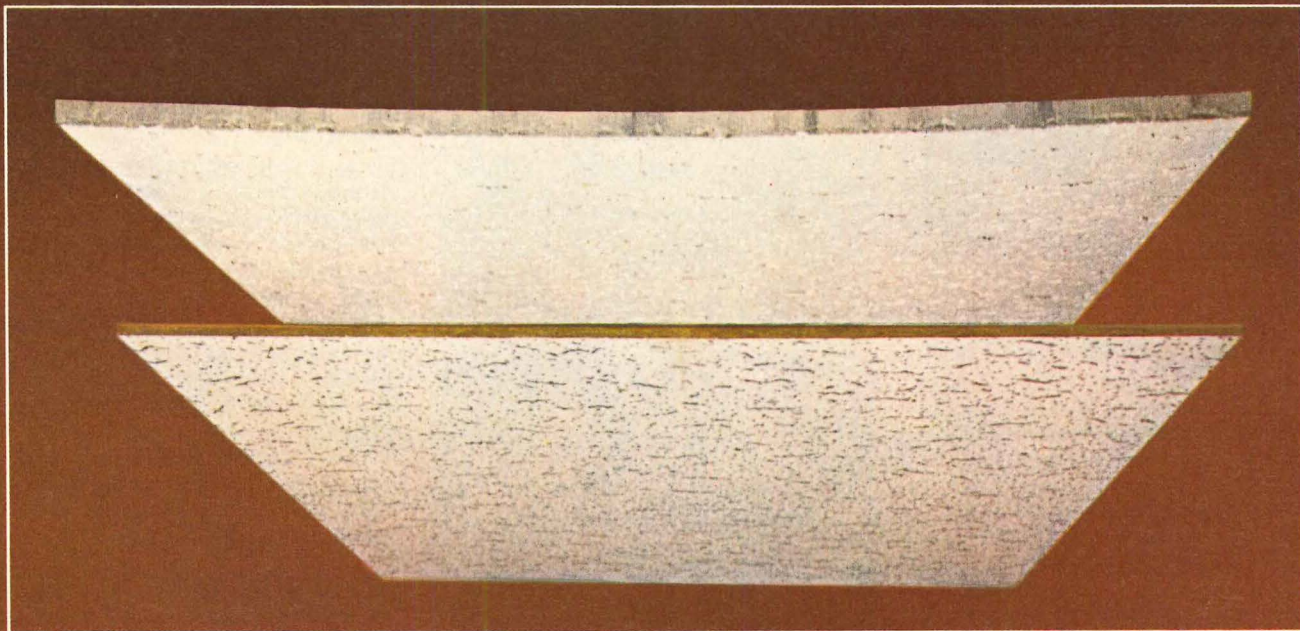
This book shows how to make environments safe, convenient, and easily accessible for the elderly and disabled. Because governmental codes and regulations vary from state to state, this book explains, through the use of drawings, diagrams, and photographs, the reasons behind architectural requirements for the physically handicapped so that those responsible for designing can use their best judgment in making decisions.

**Composite Construction Methods** by John P. Cook, PE New York, John Wiley & Sons, 1977. 330 pp., \$22.

This integrated treatment of composite construction—a blending of materials to yield a uniform, balanced structural system—views the design and building stages as the "full partners" of structure. It covers a wide range of composite construction with examinations of steel-concrete, timber-concrete, timber-steel, light gauge metal deck composites, composite columns, and hybrid construction relationships.



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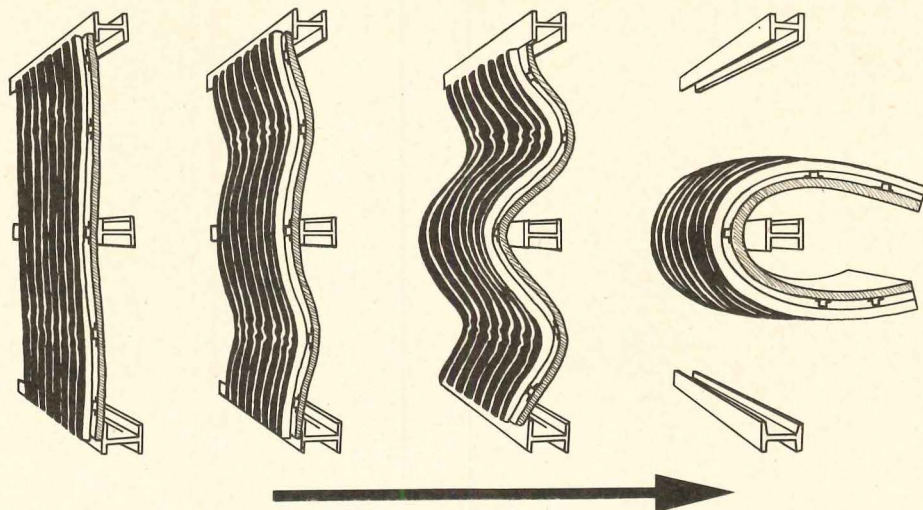
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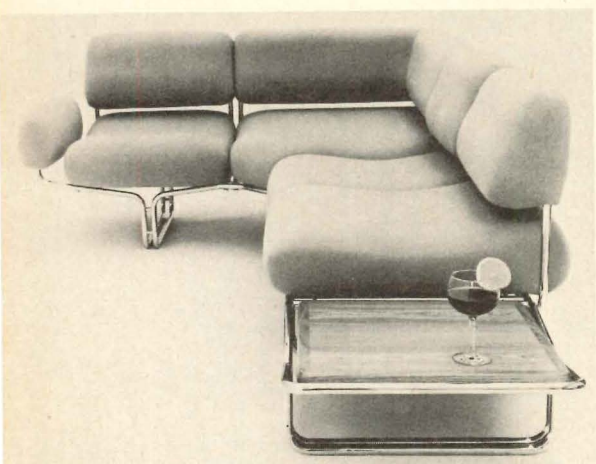
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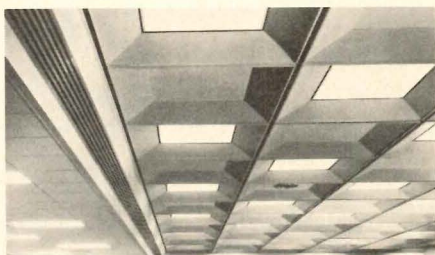
# Products and literature



Sketch shows how hurricane velocity winds cause steel panels in controlled release wall system first to buckle, then pull away from end supports to relieve pressure on a building.



Leib Lounging furniture



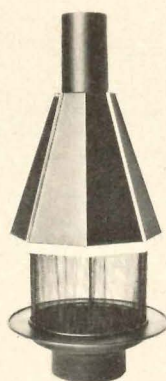
Lighting/ceiling systems

**Woven woolen tapestries.** The one-of-a-kind collection, with sizes from approximately 2½'x3' to 8'x10', are suitable for wall-hangings and rugs. All have been created in the Peruvian Andes by Inca descendants. Vivid colors combinations include yellow and orange on purple, orange and brown on red, pink and yellow on bronze. All have classic Peruvian figures, birds, and symbols woven. Decorators Walk.

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**Free-standing fireplace,** "Fire-in-the-Round," has octagonal hood and heavy gauge steel fire bowl. It can also be installed with raised or sunken masonry hearths. Hood and trim available in stainless steel, aluminum, copper, brass, or baked enamel on steel. Standard 42 in. and 48 in. diameters, or custom fabricated to size. Cradles, roof jacks, and stacks are furnished. Goodwin of California.

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Free-standing fireplace



Woven woolen tapestries

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**Leib Lounging furniture.** It is based on a 24-in. planning module with seating units that extend either in straight lines, concave or convex curves, or 90 degree corners. Arms, backs, tables, and planters may be placed at any point in the system, creating single or multi-unit groupings. Seating height is 17¼ in. All cushions are replaceable, and individually may be cleaned and recovered. Units float free of the floor and floating backs and arms eliminate dirt-catching crevices. Bases are of dual nickel chrome; backs and seats are polyurethane foam covered in your choice of fabrics, vinyls, leathers, or COM. Table tops may be glass, wood, or plastic veneer with solid oak bullnozing. Add Interior Systems, Inc.

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**Controlled release wall system,** originally developed for nuclear power plant buildings, is now available for use in industrial buildings. Designed to open inwardly or outwardly to relieve excessive pressure on a structure, the new panel is said to provide against all types of violent storms. Covering two spans, the panel is permanently attached to the structural steel support at its center. Each end of the panel is fastened to the building by means of a special clamping system. Unequal air pressure between the interior and exterior of a building, or excessive wind forces on its walls, cause the panel to begin to buckle at either end. In the case of a tornado, the panels buckle outwardly; a hurricane would cause them to collapse in the opposite direction. H.H. Robertson Company.

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[continued on page 91]



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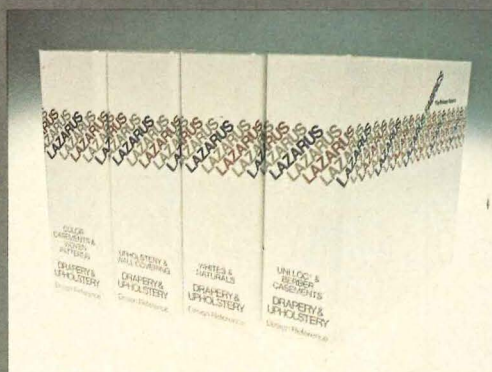


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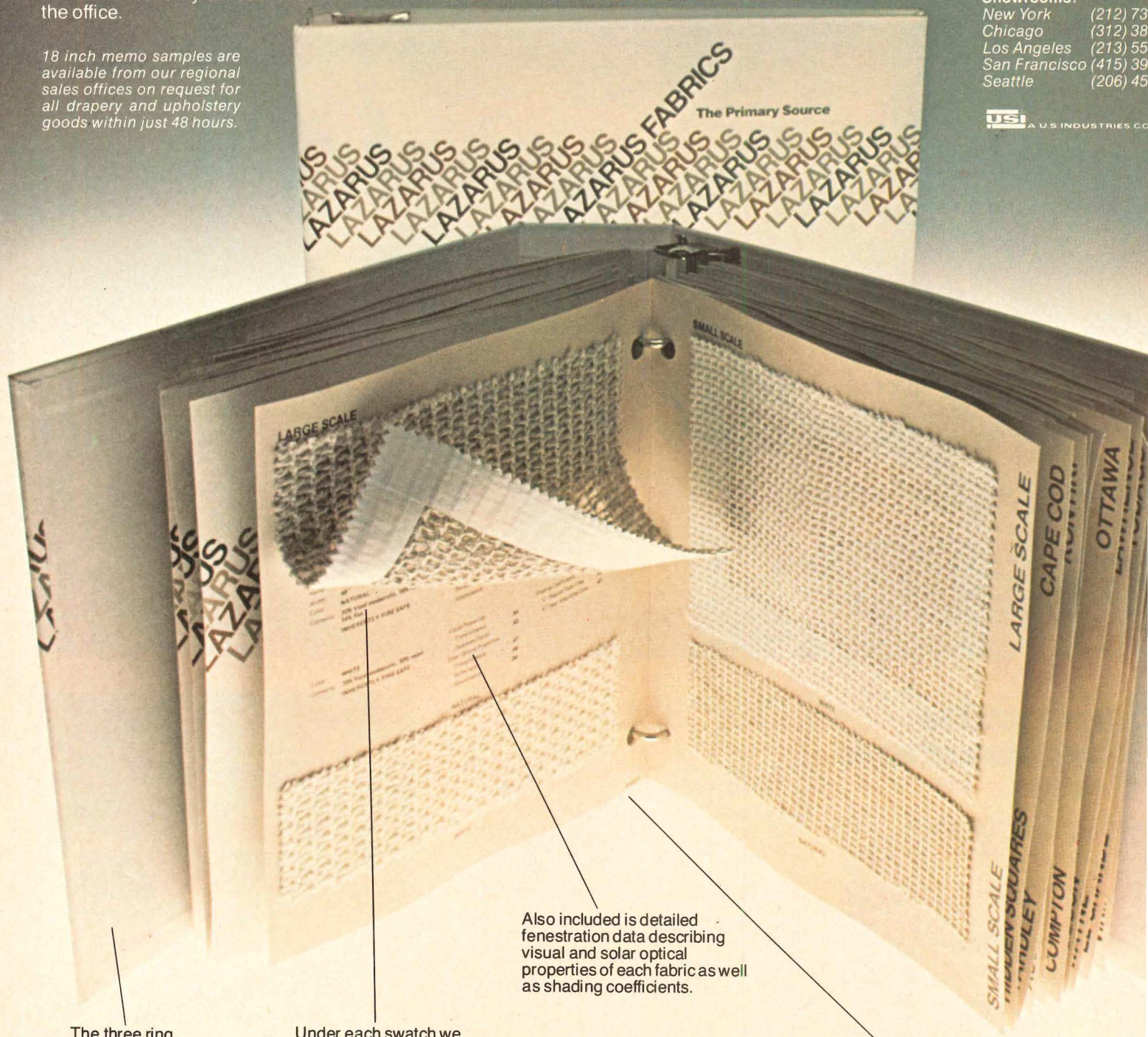
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**Products** continued from page 88

**Triple-glazed replacement windows.** For residential and light commercial installation, these Thermal-gard vinyl-clad aluminum windows are custom built to exactly fit the opening into which it will be installed. The frame, sash, and glass are insulated. Season-all Industries, Inc.

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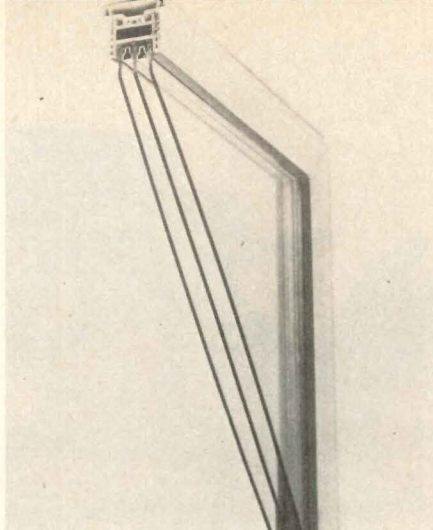
**Designer desk** is part of a limited editions collection. Lacquered veneer is the medium. Collection also features several occasional tables, a dining console, a chest, and a phone table. Zebra wood, oak, burlled elm, and lacquered veneer are the woods and finishes used. Beylerian Limited.

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**Fluorescent light stick.** Called "Bright Stik,"™ the one piece 33-watt unit eliminates the need for separate fixture and special wiring and comes ready to plug in and turn on. The lightweight stick which comes with a 6-ft cord and on-off switch, can be mounted wherever light is needed with screws or by adhesive pads. General Electric Co.

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**Self-stick floor tile.** Any color in the vinyl asbestos floor tile line may be special ordered in self-adhering tile, states maker. In addition to the regularly stocked line of 1/16 in. gauge self-

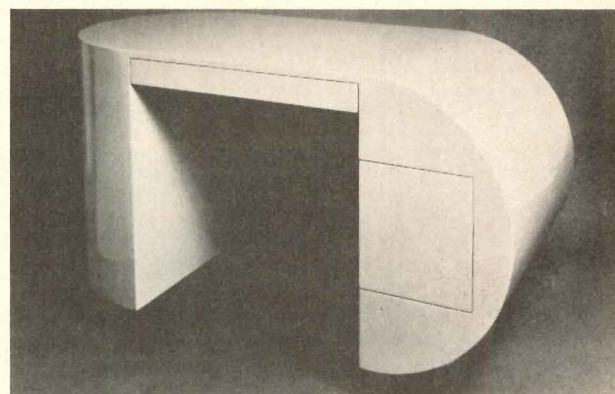


Triple-glazed replacement windows

stick, any other color of vinyl asbestos tile in 1/16", 3/32", or 1/8" gauges, 12"x12" size is available on special order. Azrock Floor Products.

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**Construction forms.** Features include precut, premitered sections that slide together to form a complete building; the joined sections form finished walls, floors, roof, etc. that can be assembled. According to the manufacturer, no skilled labor or prepared foundation pad is required for erection of buildings on site. Installation can be accomplished by means of driving standard 2" pipe into ground for footings. The pipes then fit into and become an integral part of the wall sections. Incorporated into each extruded section



Designer desk

are finished interior walls with V-grooving, finished exterior walls, full length continuous tubular conduits, self-supporting structural frame works, multiwall thermal insulation, and interlocking 45 degree tongue and groove miters. ABCOFAB Building Systems Company.

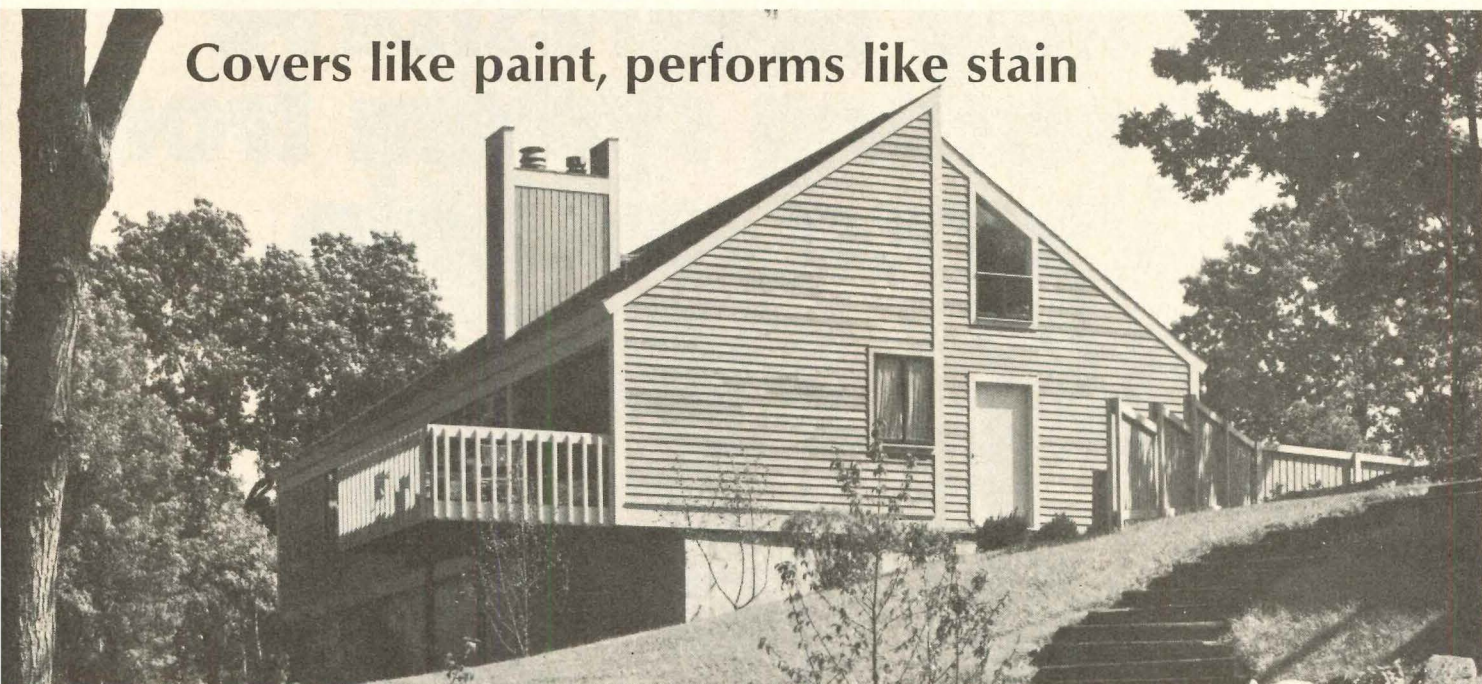
Circle 110 on reader service card

**Carpet.** Designed especially for use in golf clubs and the heavy wear of spiked golf shoes, Trophy, is a deep, 72-oz. cut pile velvet. Its urethane back allows it to be cemented directly to all types of flooring, on grade as well as below grade. It is offered in 15 solid and heather colors. Collins & Aikman.

Circle 111 on reader service card

[continued on page 94]

## Covers like paint, performs like stain



Lyon Farm in Greenwich, Conn.; Developer: C.E.P. Associates, Greenwich; Architect: S.M.S. Associates, Willis Mills, Partner, New Canaan, Conn. Treated with Cabot's Stains.

## Cabot's O.V.T. Solid Color Stains

This fine product combines the best features of a stain and a paint. An oil-base finish of great beauty and durability, it is suitable for wood, metal, masonry . . . and is applicable to all surfaces: textured, striated, smooth, previously painted or stained. These unique stains resist cracking, peeling, and blistering. Available in 31 colors.

*Cabot's Stains, the Original Stains and Standard for the Nation since 1877*



### Samuel Cabot Inc.

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- ☐ Send color card on Cabot's O.V.T. Solid Color Stains
- ☐ Send Cabot's full-color handbook on wood stains





**If you're concerned  
with designing fire-  
resistive precast buildings,  
a new fire-resistive  
joint sealing system from  
Tremco can help.**



ough precast concrete panels  
nselfs are fire-resistant, you  
w that the openings between  
n can be a hazard if fire breaks  
in a building.

But if joints are properly  
igned and sealed, they can  
st the passage of flames, heat  
hot gases.

In the search for fire-resistive  
ts, Tremco participated in a  
es of fire tests in conjunction  
n the Prestressed Concrete  
itute. (See note.)

The result: an exclusive joint  
ing system for precast concrete  
els that is fire-resistive as well  
eatherproof. A system that can  
eve required fire endurances  
wo to four hours at the joint.

## start off: e right materials.

It became clear during the  
ing that fire endurance is  
uenced by the type of joint,  
t width, panel thickness and  
joint sealing system.

Of all the materials tested,  
best results were provided  
DYmeric® sealant and  
ablanket®-FS. DYmeric is a  
-part, high-performance

mark of Johns-Manville.

sealant that Tremco formulated  
especially for precast construction.  
Cerablanket-FS is a pure ceramic  
fiber blanket made from alumina-  
silica fibers. It's manufactured  
exclusively for Tremco by  
Johns-Manville.

Under test conditions the  
Tremco Fire-Resistive Joint  
Sealing System prevented passage  
of flame or hot gases and stopped  
transmission of heat beyond  
the temperature limits in  
ASTM E-119.

## Requirements for 2-hour fire endurance on 3 types of joints.

A one-stage butt joint requires  
a 5-inch thick panel, 1-inch  
DYmeric sealed joint and a 3-inch  
depth of Cerablanket-FS.  
(Figure 1)

A two-stage shiplap joint  
requires a 5-inch thick panel,  
½-inch DYmeric sealed joint and  
1½-inch depth of Cerablanket-FS.  
(Figure 2)

A two-stage joint with air  
chamber requires a 5-inch thick  
panel, ½-inch DYmeric sealed  
joint and 1¼-inch depth of  
Cerablanket-FS. (Figure 3)

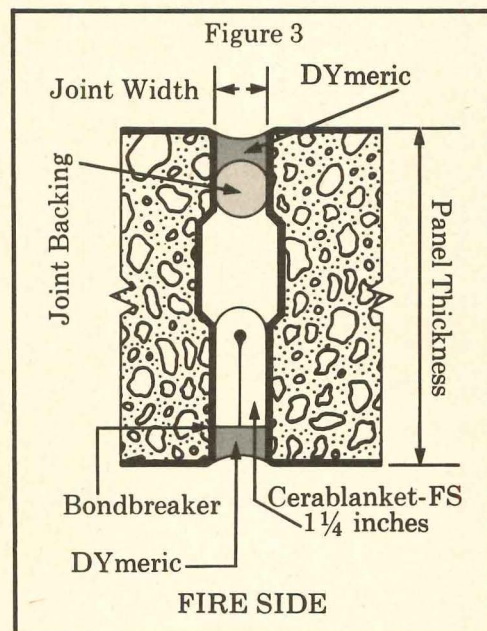
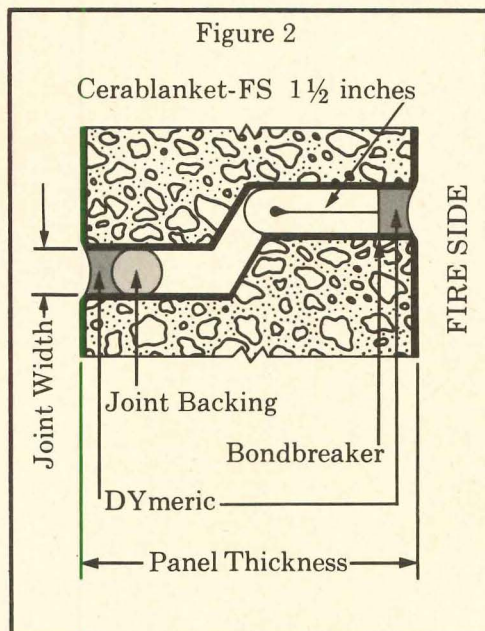
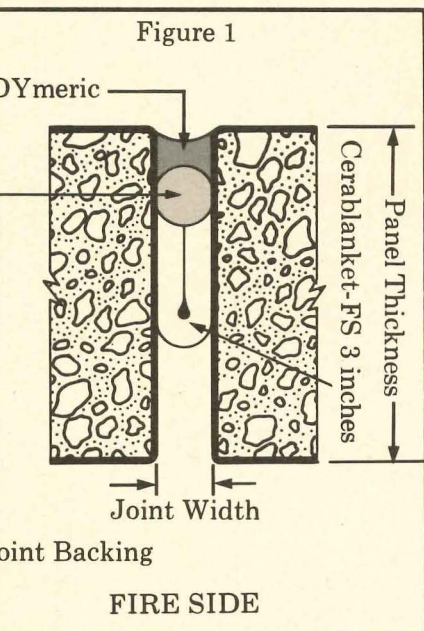
## More help from Tremco.

When you use the Tremco  
Fire-Resistive Joint Sealing  
System, you also get the weather-  
proofing advantages of DYmeric.  
It can take extra stress and  
movement common to precast  
cladding. Can seal joints up to two  
inches wide without sagging. And  
it doesn't require a primer.

What's more, Tremco can help  
you with other sealing and  
weatherproofing problems. With  
some 15 basic job-proven sealants,  
including MONO® and  
Lasto-Meric®; our unique  
TREMproof® waterproofing  
systems, and the TREMLine® roof  
edging system, your Tremco man  
can recommend the systems that  
are exactly right for your job.

See him soon for details on any  
of them including the Tremco  
Fire-Resistive Joint Sealing  
System. Or contact Tremco,  
Cleveland, Ohio 44104. Toronto,  
Ontario M4H 1G7.

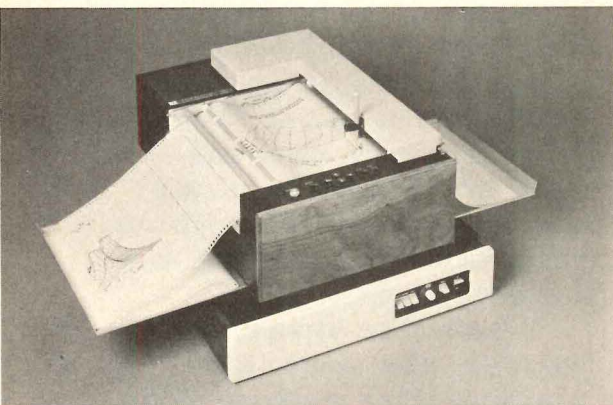
Note: The details of these tests are reported in a paper  
co-authored by Engineer Armand H. Gustaffero, of  
The Consulting Engineers Group, Inc., Glenview,  
Illinois, and Manager, Melvin S. Abrams, Fire Research  
Section, Portland Cement Association, Skokie, Illinois.  
The paper is entitled, "Fire Tests of Joints Between  
Precast Concrete Wall Panels." It was published in  
PCI Journal September-October 1975 issue and  
reprinted as Portland Cement Association Research and  
Development Bulletin RD039.01B.



Drawings not to scale.

# TREMCO®

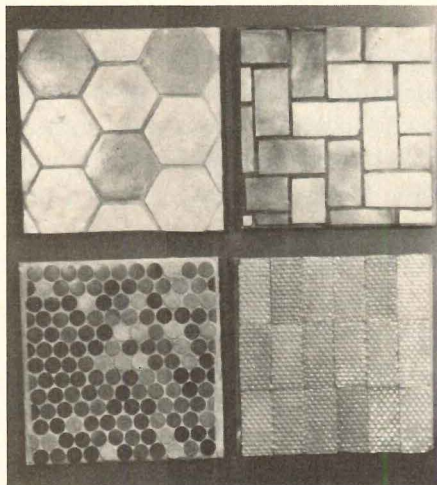




Microprocessor controller

**Unglazed terra cotta tile** comes with wide color variations from buff to terra cotta tones, and can also be stained. Available in a multitude of sizes and shapes, it is 1/2-in. thick and has relatively flat surface. According to manufacturer an installation method has also been developed that eliminates any acid wash or drying time and cuts installation time to three or four days. Elon, Inc.  
*Circle 112 on reader service card*

**Upholstery fabric.** Trac-lon is made of 100 percent nylon, backed with acrylic. The flexible backing stretches lightly to facilitate any upholstering procedures, including walls, without additional treatment or cost. Trac-lon is available in a wide choice of 28 colors. Lazarus Fabrics.  
*Circle 113 on reader service card*



Unglazed terra cotta tile

**Microprocessor controller**, in conjunction with high speed 12-in. or 36-in. plotter provides a drum plotter system which is said to operate much faster than other units. Provision for communication line transmission error detection and correction via retransmission of any erroneous data is included in these systems. Zeta Research.  
*Circle 114 on reader service card*

**Open end typewriter.** The IBM Correcting Selectric is modified to accept sheets wider than the 15.5 in. capacity of the regular model. It is suited for lettering, dimensioning, general typing in engineering, architectural, platting, mapping, surveying functions, financial statements, and other functions requiring medium large sheets,

but may also be used as alternate typewriter for regular office work. Models available are 1) without paper table and with 30-in. platen for sheets up to 2 ft wide; 2) with 40 in. paper table and platen, without extensions for sheets up to 3 ft wide; 3) with paper table and platen extendible from 40 in. to 70 in.—for sheets up to 4 ft. Longer extenders are available on special order. Music Print Corporation.

*Circle 115 on reader service card*

## Literature

**Commercial sound products.** Four-color catalog illustrates and gives brief descriptions of product line—loudspeakers, paging speakers, speaker systems, amplifiers, monitors, drivers, mixers and control consoles, and accessories. Altec.

*Circle 200 on reader service card*

**'Handbook for Outdoor Walk-In Coolers and Freezers.'** The 16-page booklet provides complete details for design and assembly of prefabricated walk-ins outside of, rather than within, a building. It illustrates the versatility of outdoor installations, includes details on floor and roof construction and shows the various types of doors available. A discussion of special outdoor accessories and controls is included. Nearly 50 drawings, photos, and illustrations are used to help explain the various subjects. Bally Case & Cooler, Inc.

*Circle 201 on reader service card*  
[continued on page 96]

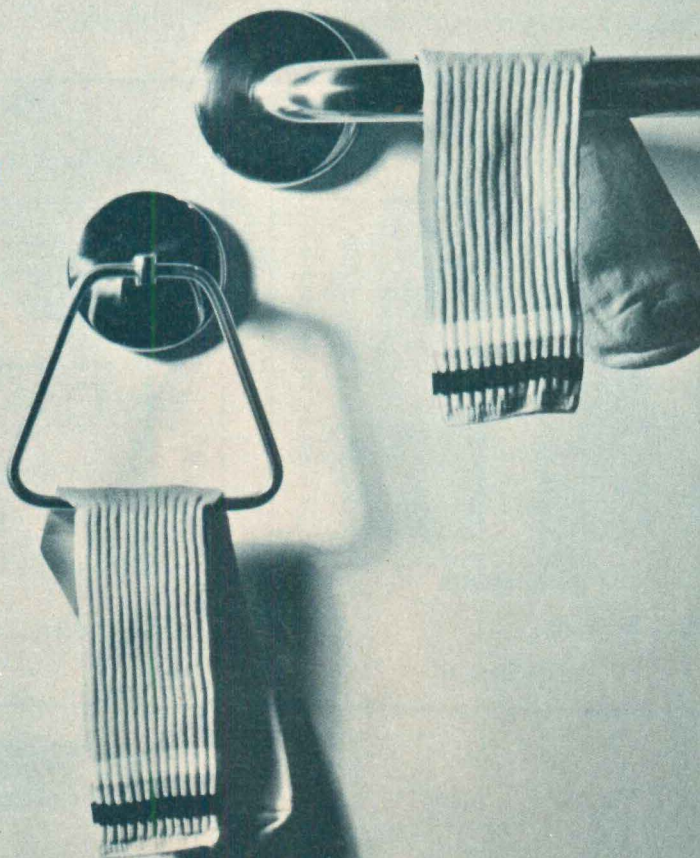
# We can give you a pair that match.

It's obvious that this Parker grab bar and towel ring belong together. Their finishes and flanges are perfectly matched. Every round-flanged stainless steel accessory from Parker's complete line is available with either a bright or satin finish. Whatever accessory you choose, Parker gives you the advantage of being able to choose an identically-finished grab bar from a wide range of sizes and configurations. Let Parker provide an attractive matching pair — or set — to fill your bathroom safety and convenience requirements.



290 Pratt St., Meriden, Conn. 06450  
Tel. 203-235-6365

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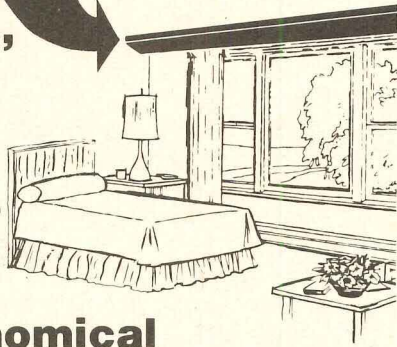




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Heating/  
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## Reflects with Mirror-Like Quality

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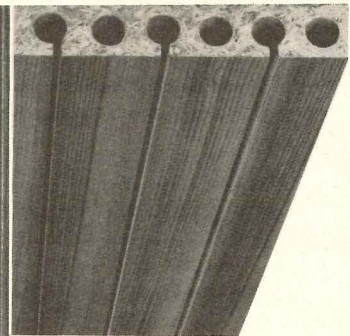
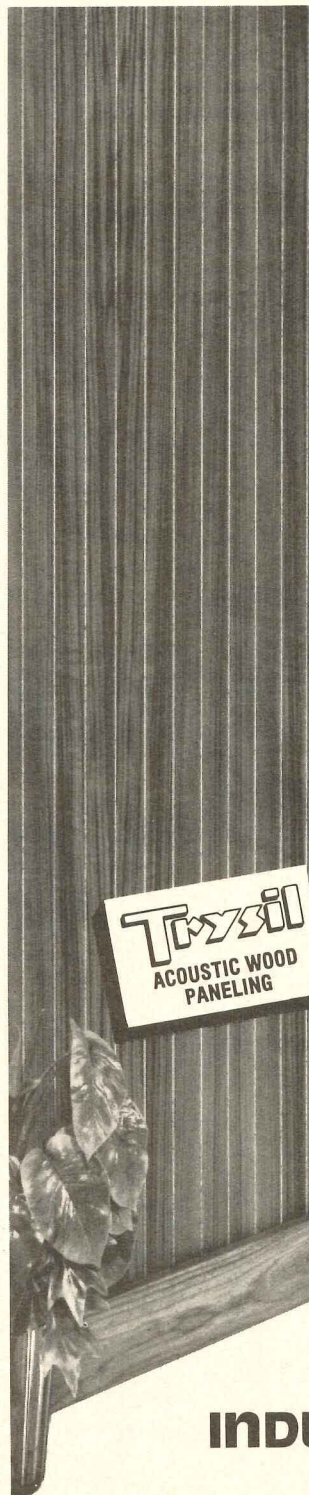
• • Sales "Reps" needed—Write to Simplex for information • • •

Introducing **Trysil** Acoustic Wood Paneling

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The part of the panel  
you see catches the eye.

The part of the panel you  
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Paneling lets you  
control sound without  
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combined installed  
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ment and decorative  
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quickly and easily to  
concrete, brick, plaster,  
etc. Three standard  
sizes available in 15  
rich, elegant wood  
veneers. Finished and  
unfinished.

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Circle No. 310, on Reader Service Card



**'Sculptured Foam Models.'** From your contour map, a sculpture is produced from a solid block of rigid urethane foam. The sculpture may then be sanded, sealed, and decorated. Decoration is achieved by either conventional methods or Contours' Photo Image Process. The kind of decoration and amount of detail depends upon the function of the finished model and is determined by the client. The company provides a complete line of custom-engineered sculptured models for architects, landscape architects, and planners. Booklet shows examples of the sculptures and gives requirements for quotation and/or model construction. Contours, Inc. Daedalus Enterprises, Inc.

Circle 202 on reader service card

**Surewall®** is a surface bonding cement that allows block walls to be built without mortar states maker. Catalog outlines some of the building requirements as well as generally accepted building practices for masonry construction and surewall applications. Also includes technical data and detail drawings. W.R. Bonsal Co.

Circle 203 on reader service card

**Desk line.** The contemporary 3200 Series is fully illustrated in full-color catalog. Every type of modular desk, accessory, credenza, machine table, and desk return is described, uses and options are indicated. Among desk drawer options are 17 different insert trays for index cards and other job related materials. Steel case Inc.

Circle 204 on reader service card

**Environmental room planning** and specification guide gives details of what to be aware of when planning an environmental room. General construction, access doors and clearances, instruments and controls, lighting, refrigeration, humidity controls, certification and testing, recorders, diurnal programmers, thermometers, and electrical receptacles are covered in guide. Sherer Division, Kysor Industrial Corporation.

Circle 205 on reader service card

#### Ceiling systems

**The items below are specifically related to the technics article beginning on p. 76 and are grouped here for the reader's convenience.**

**Ceiling filter modules.** Design, construction, engineering, and application data for a new line of replaceable ceiling filter modules are given in a new brochure. The filter modules feature an HEPA filter unit, which can be installed or replaced without removing the entire filter housing from its position in the ceiling grid. Comp-Aire Systems Inc.

Circle 206 on reader service card

**Electric radiant heating ceiling system** for homes and low-rise apartments. Technical bulletin no. 8052 describes and gives architectural and contractor planning and installation instructions. Gold Bond Building Products, Division of National Gypsum Company.

Circle 207 on reader service card

**Metal roofing systems.** Twelve-page color brochure illustrates six distinctive systems: batten, standing seam, Perma-shake, California Mission

Tile, Perma-Panel, and California Mission "S" tile. It gives typical installation details, typical specifications, color charts. Architectural Engineering Products Company.

Circle 208 on reader service card

**'Lighting Panels for modular ceilings and fixtures.'** Specifications, dimensional data, photometric data, and air data are given in brochure which also illustrates variety of louvers. Scientific Lighting Products.

Circle 209 on reader service card

**'Luminous and Decorative Ceiling Systems.'** Vinyl, acrylic, and styrene louvers, vinyl, acrylic, and styrene diffusers, acrylic and polyurethane decorative panels, grid suspension systems, and dimensional frames are covered in pamphlet. Wilson.

Circle 210 on reader service card

**'Interior products and systems'** catalog contains information on Dimensionaire Ceiling System and acoustical ceiling boards and panels. Pertinent data are given in chart form. Architectural Products Div. Owens/Corning Fiberglas Corporation.

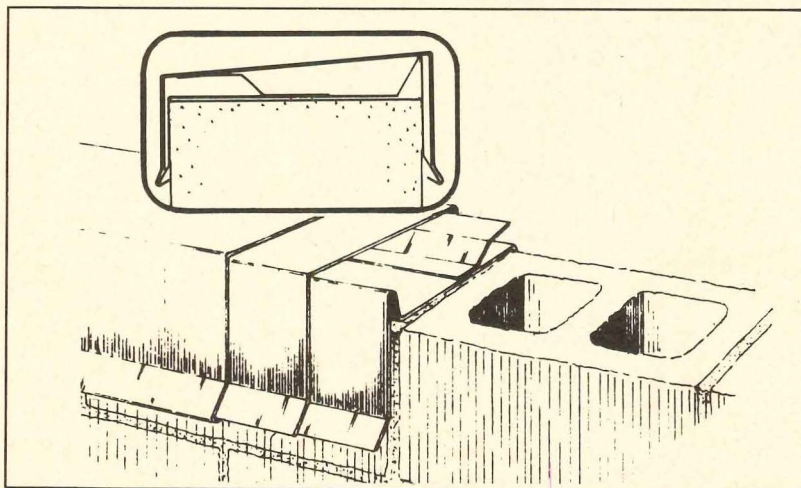
Circle 211 on reader service card

**'Ceilings.'** Four-color, 70-page brochure illustrates commercial, institutional, and industrial ceilings, and ceiling systems. Charts give test data, and cross sections of ceiling systems, product data, fire ratings, and guide specifications are also included. Armstrong Cork Co.

Circle 212 on reader service card

[continued on page 98]

# Hard & Fast.



**SPECIFY MM SNAP-LOK COPING SYSTEMS**  
write for a **FREE** brochure or refer to **SWEET'S 7.3/MM**

## Snap-Lok Coping System

### HARD, PERMANENT ALUMINUM COPING

Hard and strong enough to stand on, it's there for good. No exposed fasteners. No need to wait for dry weather and solvent-cleaned surfaces to apply adhesives. Mechanically anchored, Snap-Lok coping is a permanent, beautiful way to prevent dripping, leaking and staining. Great for the client and your reputation.

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Precision fabrication makes installing Snap-Lok systems fast and simple. You'll save time in the field. And you'll save the expense of extra skilled labor.

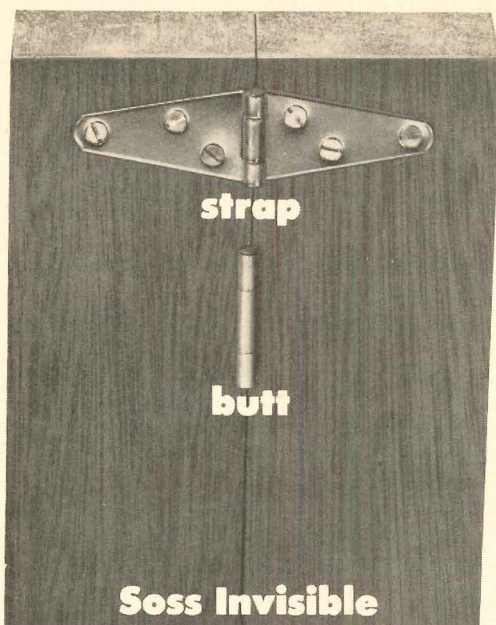


"The materials make it; the system shows it."

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**the SOSS Invisibles**

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## The Compact Courier™ Outdoor/Indoor Booth

New contemporary-styled booth of bronze-finish aluminum mounts on wall or post. Has lighted interior, four-way lighted signing and 3/4" bar shelf. Resistance to vandalism is engineered-in.

**Send today for specifications and brochure.**

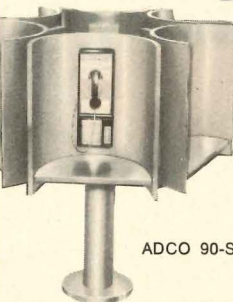


ADCO 115

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## Quiet is beautiful

Noise-absorbing interior walls, clean inspired design, and unlimited mounting options make the ADCO 90-S Acousti-Call® a booth for almost any location. Mounts singly or side-by-side on wall; back-to-back; or cluster pedestal of four or six stations.



ADCO 90-S

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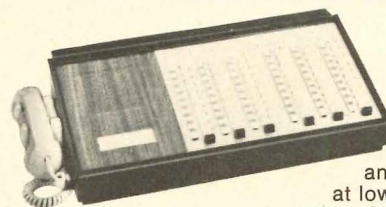
*advanced new communications systems*



Unique TELECENTER II systems provide a new concept in internal telephone communications, especially ideal for schools, combining familiar pushbutton operation with a wealth of versatile features, including exclusive Digital Readout which identifies callers sequentially. New TOUCH-COM intercom systems are remarkable for their low-cost practical utility to provide dependable two-way communications for business and industry.

Circle No. 344 on Reader Service Card

## extended health care facility communications

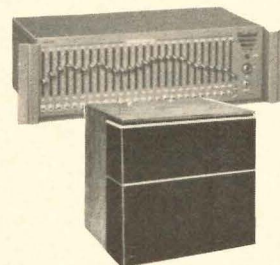


Rauland Visual and Audio-Visual CALL-A-NURSE Systems are U/L Standard 1069 approved.

They are designed to provide effective patient-nurse communications and to maximize nursing care at lowest cost-per-bed. All-solid-state maintenance-free design; easily expandable as needs grow; surprisingly low in cost.

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Literature continued from page 96

**Aluminum ceiling system.** Color brochure illustrates aluminum planar ceilings, cutaway sections, and pertinent data. Alcan Building Products. Division of Alcan Aluminum Corporation. Circle 213 on reader service card

**'Ceiling Grilles.'** Pamphlet describes unusual and flexible aluminum ceiling systems which are available in four types: Octalinear, Flair, Luma-grid, and Econovane grilles. Construction Specialties, Inc. Circle 214 on reader service card

**Overhead distribution systems.** All ODS multi-outlet power laterals feature time-saving Snapicoil® factory-wired harness of receptables spaced 24 in. or 30 in. on centers and are available in various wiring series. Installation is speeded by use of Snapicoil® harness in power laterals and the plug-in method of tying-in poles and lights. The Wiremold Company. Circle 215 on reader service card

**Aluminum ceiling grids** are custom built to your design specifications. Finishes available are painted acrylic enamel in a wide variety of colors including black and bronze; clear anodizing for both typical and high humidity or highly corrosive environment applications; and integral-color hardcoat anodizing in medium to dark bronze and black. Howmet Aluminum Corp. Circle 216 on reader service card

**'A Catalog of Lighted Ceiling Designs.'** It describes and illustrates a wide variety of ceiling surfaces: luminous skylights, decorative, modular and non-modular luminous, and mirrored reflective. Integrated Ceilings, Inc. Circle 217 on reader service card

**'Metal Pan Ceilings.'** Textured metal pan and acoustical metal ceilings are described, and technical data are given in brochure. Steel Ceilings, Inc. Circle 218 on reader service card

**Paraline ceiling system** is a simple incombustible steel ceiling which accommodates light fixtures and air handling devices. Applications include schools and institutions, gymnasium-auditorium units, cafeterias, and large meeting rooms. The all-metal system satisfies most safety requirements. Donn Products, Inc. Circle 219 on reader service card

**Modular distribution systems.** The "Communi-pole" provides electric, electronic, and communications power wherever it is needed. Brochure has cross sections of assembly, gives product data. The Power-T-Duct is a systems approach to ceiling power and lighting. It is an extruded raceway with wired receptacles and is attached to the main T-bars of an inverted T-bar ceiling system. This permits lighting fixtures to plug in for use wherever the inverted T-bar lay-in tileboard ceiling is used. Electro-Products Division, 3M Company. Circle 220 on reader service card

**Integrated ceiling system** is said to offer design flexibility, beauty, and function. Provisions for lighting, air distribution, acoustical control, and partition attachment have been blended into a fully integrated ceiling system. Shown in detail with specifications in brochure. Donn Products Inc. Circle 221 on reader service card

**Acoustical grid suspension systems.** Contents of brochure include data on six ceiling systems including exposed grid, concealed grid and fire-rated architectural specifications, and performance data. Roper Eastern. Circle 222 on reader service card

**'Ceiling Integrated Air Distribution Systems.'** Brochure details fully coordinated linear system of interchangeable components. According to the maker, what makes CIAD/AF different from other linear air distribution systems are two basic parts of the system, the Slot and the Weir. The Slot is the linear opening for the primary air entrainment into the occupancy zones of the building. The flanges of the Slot are capable of supporting all ceiling components. The Weir is the mechanical adjustable device allowing full pattern and complete velocity/pressure control. While the basic components capabilities are said to meet most architectural design and human comfort criteria, special extrusions, airbars, lighting coffers, and supply-return diffusers are custom manufactured and pre-tested for any architectural concept. Air Factors, Inc. Circle 223 on reader service card

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We're Laminated Glass Corporation . . . specializing in laminated safety glass since 1948. We're a little smaller than some companies in our business, but we offer just as complete a laminated glass line . . .

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- **HUSHLITE®** — sound-controlling glass blocks irritating noises.
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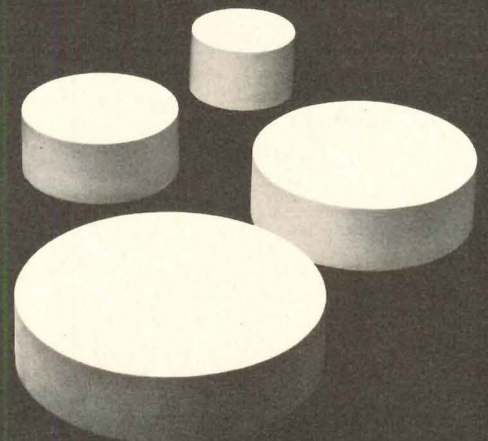
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Circle No. 328, on Reader Service Card

Circle No. 354, on Reader Service Card



**Moduline Air System.** Four-color brochure outlines the benefits derived from the use of this system and tells how it can fit into any design. Brochure states that the key to Moduline performance is the easily accessible, self-contained control which is powered by duct air pressure supplied by the fan that propels air through the system. This air pressure inflates the bellows that varies air quantity. There are no damper motors or wall thermostats connected by wiring or pneumatic lines from the room to the units. The only control connection between units is small, flexible tubing running from the control unit to satellite units all above the ceiling. Carrier.

Circle 224 on reader service card

**Ceiling Systems Guide 77'** contains engineered systems and components including a wide spectrum of colors and finishes to create suspended ceilings. Descriptive and technical data are given and components are illustrated. Chicago Metallic Corporation.

Circle 225 on reader service card

**Compac ceiling systems** come assembled in a carton, delivered to the job site ready to install. The five basic environmental ingredients—visual, sonic, thermal, aesthetic, and spatial flexibility are engineered into every module. They are designed in 5'x5' modules with a diversity of lighting elements. Other pyramidal module sizes are available. Day-Brite Lighting Division, Emerson Electric Co.

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**'Environmental Ceiling Systems.'** Included in color brochure are illustrations and descriptive data on the Soundlume Total System which includes the functions of air supply and return, low brightness lighting, and sound absorption and attenuation; the Omni System which also combines acoustical control, illumination, and air distribution; Semi-Exposed System with structural grid members produced from either steel or aluminum installed in one direction only to support all ceiling components; Regressed Grid System, Lay-in System; One-Plane System, and Mini-Coffer System. Soundlock Division, Emerson Electric Co.

Circle 227 on reader service card

**'Ceiling Dynamics.'** A folder of pre-engineered environmental ceiling systems which contains technical data and descriptive information. United States Gypsum.

Circle 228 on reader service card

**'Long Span floor/ceiling systems.'** Structural decks that work through the co-action of formed steel decking with a cover slab of poured-in-place concrete are detailed in brochure. There are three blendable profile types to choose from—each of which can provide one or more of these features: acoustical control; communications and electrical raceways; air diffusion and distribution; and recessed lighting troffers. Each is a structural-mechanical floor and an architectural ceiling at one and the same time. H. H. Robertson Company.

Circle 229 on reader service card

**Acoustical systems** are illustrated and described in 1977 catalog, which includes basic data, explanation of test methods, UL classifications, and cross sections of product. The Celotex Corporation.

Circle 230 on reader service card

**Flexible, metal-clad plug-in wiring system** is said to replace conventional conduit runs for lighting, convenience receptacles, communications, and clock/signal branch circuits in commercial and institutional buildings. Brochure contains cross sections which show wiring layout. Electro/Connect Division, Emerson Electric Co.

Circle 231 on reader service card

**Ceilings.** Catalog contains information and technical data on specialty products such as rock and metal face, ceramic, natural fissured and aurora tile and panel materials, standard and fire-rated components, specialty and standard systems. Conwed Corporation.

Circle 232 on reader service card

**'Sound Control Ceilings.'** Four-color catalog contains 54 pages of illustrations, technical data, and guide specifications on all types of acoustical ceiling tiles and panels, and pre-engineered, factory-built integrated ceiling systems, which combine air distribution equipment, acoustical panels, and lighting fixtures, and can accommodate telephone/electrical wiring. Johns-Manville. Holophane Div.

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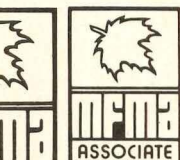
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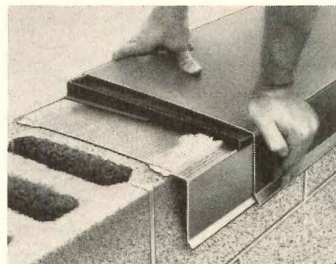
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# Notices

## New firms

David J. Roth, Robert W. Eckert, and Paul S. Jacobson have opened the office of **Roth, Eckert, & Jacobson, Architects and Planners**, 227 W. Crawford St., Findlay, Ohio 45840.

Robert L. Yarbrow and Richard J. Kempinger have formed **Yarbrow-Kempinger, Architects**, 1018 W.S. Park

Ave., Box 2096, Oshkosh, Wis. 54901. Lin McNair, James O. Gordon, William L. Johnson, and Rick Karasiewicz have formed **McNair, Gordon, Johnson & Karasiewicz**, architects, engineers and planners, Columbia, S.C.

Robert D. Kirk, AIA and Kay D. Kennedy, AIA have established **Architectural Concrete Associates, Inc.**, P.O. Box 953, Addison, Tex. 75001.

Perry, Dean, Stahl & Rogers, Inc., Architects, 177 Milk St., Boston, Mass. 02109.

Andrew Kinzler/Land Planning, 1501 Walnut St., Philadelphia, Pa. 19102.

Robert G. Hammond Associates, Architects, 414½ Sixth St., Annapolis, Md. 21403.

Norman Hoberman, John Gallagher Architects, 20 Bruce Park Ave., Greenwich, Conn. 06830.

Donald D. Powell and Robert D. Kleinschmidt have formed **Powell/Kleinschmidt Inc.**, 300 N. State St., Chicago, Ill. 60610.

Anthony E. Oliver and John Glidden Architects, 204 Brazilian Ave., Palm Beach, Fla. 33480.

## New addresses

Esherick Homsey Dodge & Davis, 2789 25 St., San Francisco, Calif. 94110.

Griswold-Eshleman/Pittsburgh, Carlton House Hotel, 550 Grant St., Pittsburgh, Pa. 15219.

## Building materials

**Major materials suppliers for buildings that are featured this month, as they were furnished to P/A by the architects.**

**The Greater Model Community Recreation Center, Baltimore, Md. (p. 62).** Architects: Designbank Incorporated. Concrete footings and block walls: Medusa Cement Co. Exterior acrylic spray-on coating: Environmental Enterprises. Aluminum panels: Reynolds Metals Co. Paint: Glidden. Vinyl asbestos tile: Armstrong Cork Co. Ceramic tile: American Olean Tile Co. Built-up roofing: Celotex Corp. Roof insulation: Johns-Manville. Perimeter insulation: Amspec Inc. Skylight: Wasco Products. Glazing: General Electric (Lexan). Doors: Philipp Manufacturing Co, F. L. Saino Manufacturing Co., Caplan Brothers. Hardware: Russwin, Stanley. Kitchen equipment: Nutone Housing Products, General Electric. Lighting: Lightron Corp. Plumbing and sanitary: American Standard, Sloan Valve Co., Halsey-Taylor, Zurn Industries, Inc. Heating: Chromalox. Air conditioning: Carrier, Inc.

**Municipal Fire Station, Corning, N.Y. (p. 58).** Architects: Gunnar Birkerts & Associates, Birmingham, Mich. Reinforcing steel: Bethlehem. Wall panels: H. H. Robertson Co. Interior paint: Glidden. Vinyl asbestos tile: Kentile. Traffic surfacing: Neogard Corp. Paving tile: Lonestar. Carpet: Lees. Acoustic ceiling panels: Alcan Planar Ceilings. Roof surfacing system: Johns-Manville. Wall panel lamination: Dow Chemical, Johns-Manville. Windows: H. H. Robertson. Doors: Fenestra, Windsor Door Co. Hardware: Sargent & Co., LCN Closers, McKinney. Exterior paint: PPG Industries. Kitchen cabinets: St. Charles. Lighting: Doorman Co., Solux, Holophane, Halo. Plumbing and sanitary: American Standard, Sloan Royal. Heating: Mammoth, Singer, ITT-Reznor. Air conditioning: Mammoth, Honeywell.

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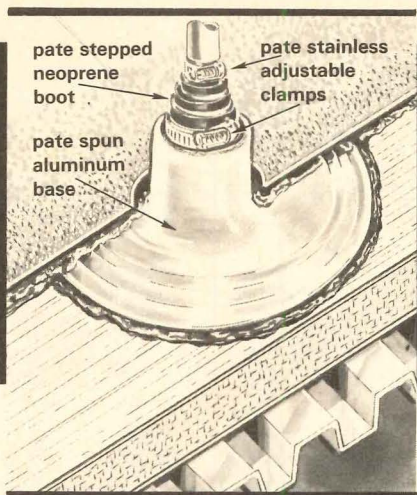


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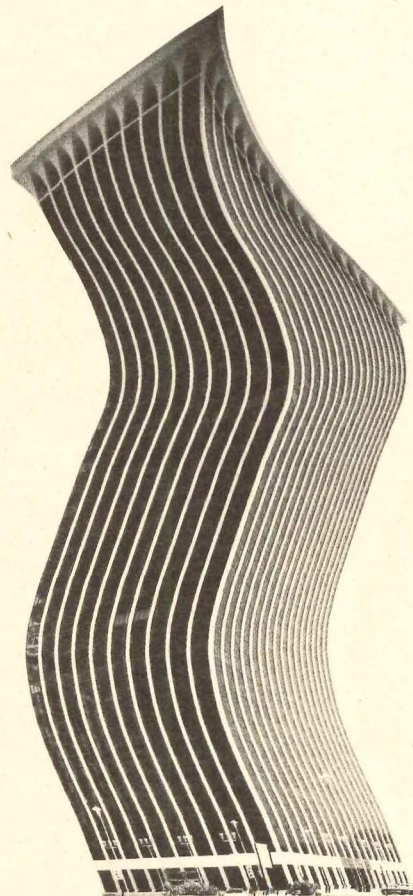
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# Job mart

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**Architect Wanted:** Small, high-performance general practice architectural firm with well established offices in two of Florida's growth areas is looking for several project architects with demonstrated experience. Write this magazine Box 1361-116, *Progressive Architecture*.

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**Faculty:** The Department of Architecture, North Dakota State University seeks applicants for two positions, full-time on 9-month basis, assistant or associate professor rank. Duties include design studio instruction plus lectures/seminars in materials, construction, ECS, Site development, computer-aided design, urban design, design methods or other areas. Send resume and statement of interests to C. D. Elliott, Chairman, Department of Architecture, North Dakota State University, Fargo, ND 58102. An equal opportunity/affirmative action employer.

**Faculty:** The Environmental Design Department, Texas A&M University is accepting applications for a 9-month faculty position in and to assist in the development of upper-level architectural history courses, and to teach possibly a design studio. At least one degree in Architecture is desired; PhD, or in final process in History. Salary is commensurate with and appointment is expected to be on a full-time 9-month basis at either the Assistant or Associate Professor rank. Texas A&M University is an Equal Opportunity/Affirmative Action Employer. Applications should include a resume, academic credentials and letters of reference. Applications or nominations should be received by 1 July 1977 and should be sent to: John O. Greer, Head, Department of Environmental Design, College of Architecture, Texas A&M University, College Station, Texas 77843.

**Faculty:** The School of Building Construction at the University of Florida will have a full time faculty position open in Fall 1977. Minimum requirements are an advanced degree and five years of practical construction experience. Reply to: Dr. Don A. Halperin, Director, School of Building Construction, College of Architecture, University of Florida, Gainesville, Florida 32611. The University of Florida is an equal opportunity/affirmative action employer.

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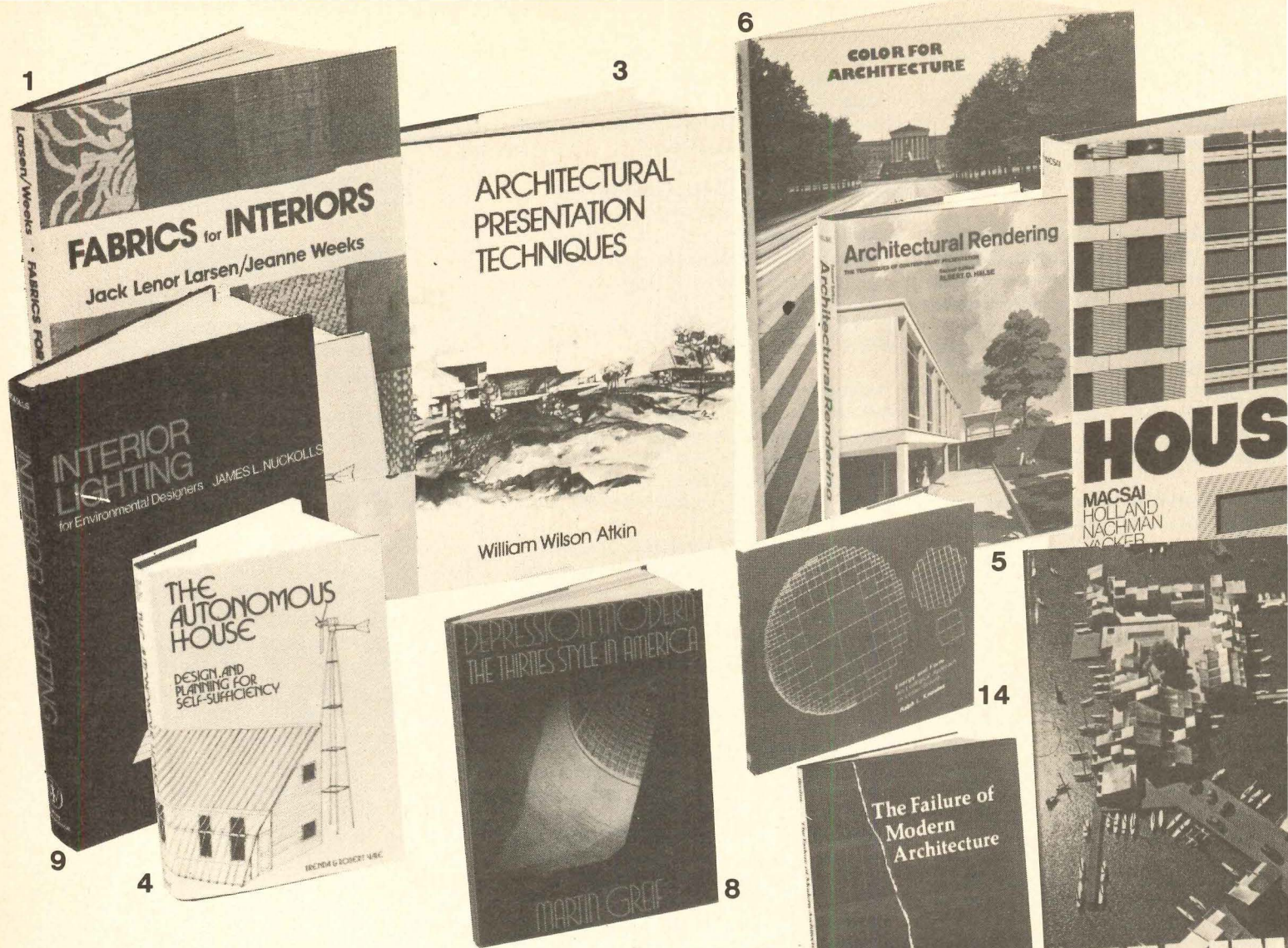
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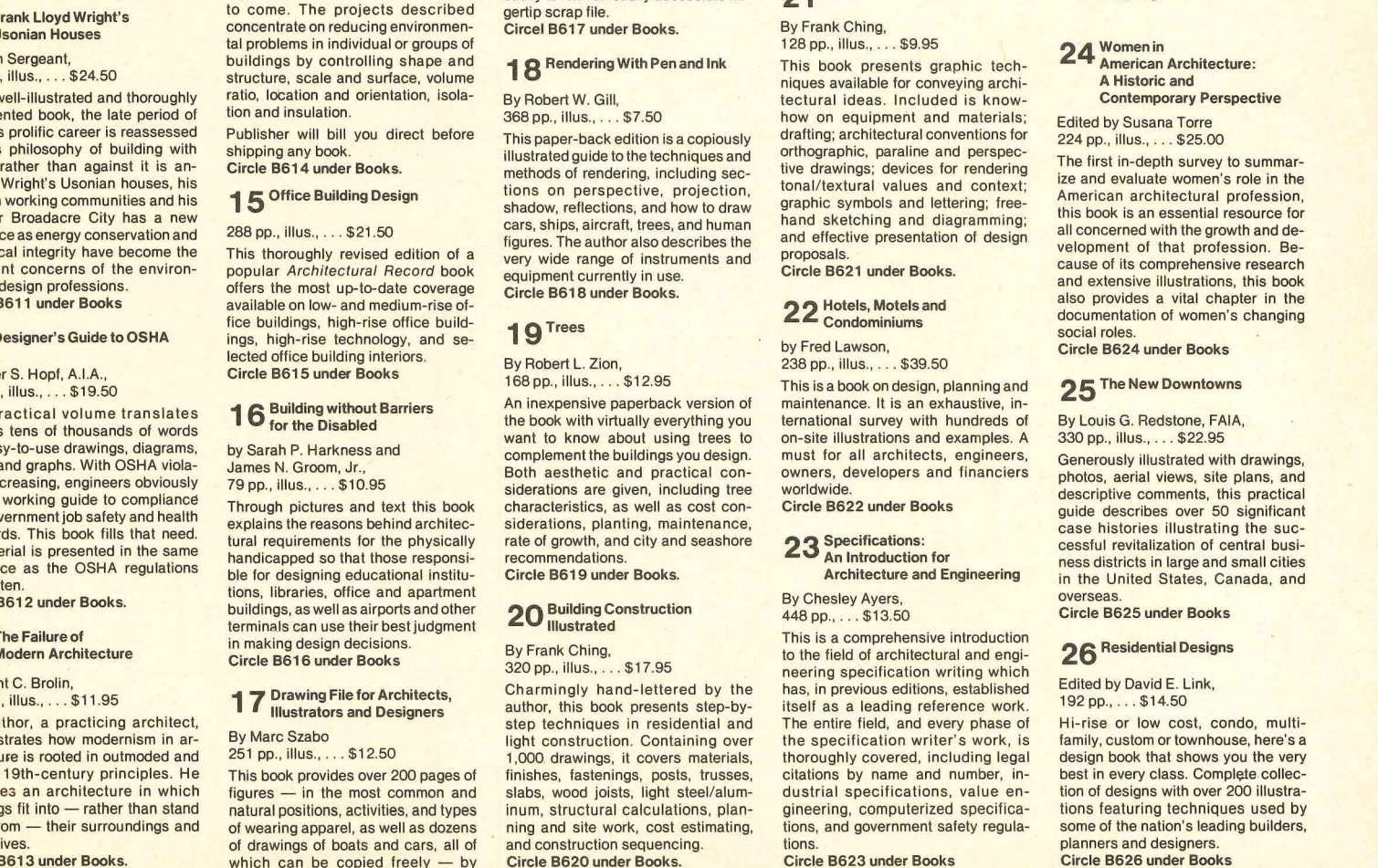
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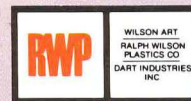
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